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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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MEETING OF THE LAKE CARRIERS' ASSOCIATION.

At the last meeting of the Lake Carriers' Finance committee, held in the offices of the president, Capt. James Corrigan, Cleveland, the Ashland ore trimming question was discussed. The vessel owners had agreed to give to contractor King the work of trimming cargoes at Ashland, he agreeing to do it for 2½ cents per ton. He was assaulted later by strikers, who gained a partial victory, and the union men have trimmed several cargoes since at 3 cents. The owners resolved unanimously to refuse to pay more than 2½ cents, and another stevedore will go there to see if he can do the work at that rate. Some of the boats have left Ashland without having their cargoes trimmed.

It was decided that H. D. Goulder, Esq., general counsel of the association, should be sent to Washington to take up with the members of Congress the provisions of the Lockwood Immigration bill, which forbids any master to employ in any capacity on his boat a man who has not lived in the country at least six months, and requires the master and owner of the boat to shoulder the responsibility. Attention was also called to a communication from Chicago with reference to the proposed construction of a high bridge across Chicago river between the Clark and Twelfth street bridges. This is seriously objected to, because a pier which it is proposed to place in midstream would render it impossible for boats to pass over the La Salle street tunnel at the middle of the river, where is the greatest depth of water.

A further protest was drafted against the appointment of J. H. Galwey, of Detroit, who is one of eight candidates for supervising inspector of steamboats, to succeed Capt. Charles H. Westcott in the Eighth district.

APPROPRIATION FOR CANAL SURVEYS.

The House committee on railways and canals has voted an appropriation for surveys for a canal to connect the Hudson river and the Great Lakes, and for one between the Ohio river and Lake Erie. The bill of Representative Chickering (New York) appropriates $50,000 for a survey of a route for the former, but did not designate any route. There is a movement on foot for negotiations with the state of New York for the cession of the Erie canal property to the general government.

ADMIRALTY DECISION REVERSED.

A decision in admiralty of considerable importance was announced on Monday from the Circuit Court of Appeals in Cincinnati, O. It was in the suit of Wineman vs. Steamer Iron Chief, and the libel was to recover damages for injury to the schooner Card by collision with the Iron Chief, July 24, 1891, at the head of St. Mary's river. The case was heard before District Judge Swan in Detroit, February 1892, and the libel dismissed, from which decision Wineman appealed. This decision has been reversed by the Circuit Court of Appeals and the case sent to the clerk of the Circuit Court for a computation of damages.

SUIT FOR PERSONAL INJURIES.

A point that will interest all grain carriers on the lakes was introduced in the defense in the action of Ossian Eustrom against the steamer City of Naples, on trial this week in the United States court at Duluth. Eustrom is a deputy grain inspector employed by the state. Over a year ago he fell into the hold of the steamer through an open hatchway and was terribly injured. He brought suit and libeled the City of Naples for $20,000. It is claimed by the vessel men that Eustrom not only was warned in regard to the danger, but that he came aboard the vessel either voluntarily or as an employe of the state of Minnesota. It is maintained that Eustrom came on board uninvited and without authority; also that the business of the state, in connection with loading vessels with grain, is concluded absolutely at the end of the elevator spout, as all grain is inspected inside the warehouse. Some vessel owners state that they will hereafter refuse to permit a state deputy grain inspector to step on board their vessels, unless upon the direction of the owner of the grain.

PILOT CHART OF THE LAKES.

Through the courtesy of Commander C. D. Sigsbee, U. S. N. Hydrographer, we have been furnished with an advance copy of the pilot chart of the Great Lakes, just published by the Hydrographic Office, Washington, D. C. It is hoped that this chart for the lakes may prove useful. It is not intended to go into the question of weather as exhibited on the North Atlantic pilot chart and on the proposed North Pacific pilot chart, as at present there is not the appropriation and perhaps not the necessity for a pilot chart of the lakes at frequent intervals as in the case of the other pilot charts, although it is believed that the pilot chart of the Great Lakes will develop into something quite as useful for the lake mariners as the North Atlantic pilot chart is for sea-going people.

Pilot charts are essentially co-operative charts relative to which mariners are expected to help each other, the Hydrographic Office and its publications providing the instrumentalities for the purpose. Suggestions are invited tending to improve the chart, both in respect to new features and to the extension of features already presented. Communications relative to the chart, or to any purpose connected with the Hydrographic Office, may be addressed directly to the Washington office or to Lieutenant George P. Blow, U. S. Navy, in charge of the Branch Hydrographic Office, Room No. 1621, Masonic Temple, Chicago, Ill.

A FITTING RECOGNITION OF BRAVERY.

Senator Frye asked the unanimous consent of the Senate this week for the consideration of bill (S. 1645) for the relief of the dependent relatives of the seamen of the Netherlands steamer Amsterdam, who lost their lives in the effort to save the crew of the American schooner Maggie E. Wells, and also for the relief of the sole survivor of the rescuing party.

The bill proposes to appropriate $5,750 to enable the Secretary of the Treasury to pay the following sums of money to the persons named, dependent relatives of the five seamen of the Netherlands steamer Amsterdam, who recently lost their lives in a heroic effort to save the master and crew of the shipwrecked American fishing schooner Maggie E. Wells, of Gloucester, Mass., and the sole survivor of the rescuing party: To the widow of first officer J. Meyer, $500; to each of her two children, $250; to the widow of boatswain E. Regnard, $500; to the mother of A. J. Oudyn, $500; to each of the two children of F. Eichhorn, $250; to the widow of A. Bos, $500; to each of her two children, $250; to the widow of A. Van Vliet, $500; to each of her five children, $250; to A. Van der Wilt, survivor, $500.

The monetary recognition as framed in the bill was passed, and the families of the foreign seamen who so bravely risked and lost their lives in an effort to save American citizens will at least have the satisfaction of learning that the gallantry of their bread-winners has been nationally recognized.

HIGH SPEED TORPEDO BOATS.

The sea-going torpedo-boat Forban, now building at Havre, by MM. Augustin Normand & Co., is designed to attain the speed of 30 knots, or 34½ statute miles an hour. The Chevalier, a torpedo-boat of the same length, but of only 2,700 indicated horse-power (where the Forban has 3,200) was recently delivered by MM. Normand, and has attained a speed of 27.22 knots. The boilers which give these striking results are a specialty of the firm of Normand, and are, it is understood, to be adopted for the six new British torpedo-boat destroyers.

NEWS AROUND THE LAKES.

CHICAGO, ILL.

Three boats were chartered Wednesday for Kingston 2½ cents on corn, the Buffalo rate is 1½ cents on wheat, and 1⅛ cents on oats.

Capt. John Prindiville chartered steamer Wilson and consort Manitowoc and steamers Quito and Norwalk for corn to Kingston at 2½ cents.

The Chicago Ship Building Co. will launch the new steel steamer building at their shipyard and to be named the Kearsarge next Tuesday.

Last Friday may be reckoned one of the most disastrous days the Chicago lumber fleet ever experienced. The north-east gale which began Thursday night increased in force all day Friday and caused great loss of life and property.

The schooner Resumption had her jibboom, bowsprit and headgear carried away by collision with the steamer Selwyn Eddy when riding out the gale off this port Friday.

Capt. Thomas Johnson, wrecking master of the Dunham line, went to Milwaukee to inspect the wrecks of the Cummings and Barnes. He reported that the stern of the Cummings was gone, and that one side of the boat was broken loose. The Barnes is in apparently good condition and may be released. An attempt will be made to release the schooner Magnolia from the beach near South Chicago by South Chicago tugs.

The barge Emma C. Hutchinson which left here last Thursday in tow of the steamer Germanic and broke away from her in the heavy gale, was towed into this port at noon Tuesday by the tug Bob Teed, which found her about 10 miles north-east of Michigan City at anchor with her sails blown away and rudder gone.

The Western Transit Co.'s steel steamer Hudson, Capt. Angus McDonald, ran back here for shelter and repairs. When about 60 miles down Lake Michigan at 11 a. m. Friday she was struck by a heavy sea which carried away her forward cabin and pilot house and disabled her steering gear. She was steered back to port by the tiller aft. Her cargo was shifted and some portion of it damaged. She is undergoing repairs here under the superintendence of Robert Humble, of Buffalo.

The schooner Presto was seized by the Treasury Department for sailing without clearance papers or license. Early in the season the Presto sailed without papers, and on returning here was fined. O. F. Schumann, her owner, refused to pay the fine and sent his boat out again without papers. Collector Russell seized the schooner on her return here on Wednesday. A custodian was placed on board, and by the time the case is heard, July 1, his fees and the fines will aggregate $500, or more than the boat will bring at marshal's sale.

Much indignation is felt here at the action of the life-saving authorities at Washington, who have left Chicago without a crew of life-savers. The authorities took away Chicago's life-saving crew last year and placed them at Jackson Park, leaving two men only in charge of the life-saving station here. The two men in charge here obtained some volunteers and did noble work in rescuing a number of lives, yet it is believed that had the regular crew been in service here the lives of the captain and crew of the schooner Myrtle would have been saved.

C. W. Elphicke & Co. chartered the steamer Josephine and consort to go to Duluth and load wheat for Kingston at 3½ cents. Palmer, Cook & Calbick chartered the steamer Fred Pabst for oats at 1⅛ cents, and wheat at 1½ cents to Buffalo, the steamer John Spry for steel rails from South Chicago to Duluth at $1 per ton free aboard, and the John Spry and consort Johnson for lumber from Duluth to Chicago. J. J. Rardon & Co. chartered the steamer Hesper for 83,000 bushels corn to Buffalo at 1¼ cents; schooner Hattie Wells clipped oats at 1 cent to Port Huron; steamer DeLeuty 35,000 corn and consort Celtic 45,000 corn to Kingston at 2½ cents. P. H. Flemming & Co. chartered the steamer City of Berlin for 150,000 bushels of oats at 1⅛ cents to Buffalo.

Funeral services over the remains of Capt. John Wilson, who lost his life when the schooner Myrtle went down last Friday night, were held on Tuesday, at the house of his aunt, Mrs. H. W. Adam, No. 16 Ashland court. Interment was in Graceland Cemetery. Capt. Wilson was 58 years of age, and so far as known, he had only one living relative, Mrs. Adam, and to her will revert the deceased's property, which is very considerable. The funeral was attended by several members of the Seamen's Union. The funeral of John Bruner mate of the wrecked schooner Myrtle, took place on Tuesday, from his home, No. 546 North Ashland avenue. The deceased was a member of the Order of Foresters, and the pallbearers were selected from that order. The interment was at Rose Hill Cemetery.

The Graham & Morton Co.'s steamer City of Chicago will commence running between Saint Joseph and Chicago Sunday, May 27th.

WILLIAMS.

CLEVELAND, O.

The Senate has fixed the duty on iron ore at forty cents per ton.

Capt. James Millen, of Detroit, was in the city Wednesday on vessel business.

Bids are asked for the hull of the fire boat J. L. Weatherly. She will be sold to the highest cash bidder on Thursday next.

Capt. Fred. Boothman begins the season this week in the steamer Alcona, towing as a consort the Alta. The tow is owned by the O. & P. Coal Co., of this port.

The steamer Lakeside, Capt. Nelson Wigle, arrived at this port Wednesday and was at once placed on the Cleveland-Port Stanley route. Farasey & Marran, wharfingers, are agents for the new line.

Mr. Burton, fire and marine insurance agent, Detroit, visited this port on Monday and spent some time calling on his friends in vessel owning circles. Mr. Burton is among the oldest marine insurance men on the lakes.

The Hydrographic Office, Bureau of Navigation, Navy Department, has issued No. 1 "Notice to Mariners" for the Great Lakes. This is a pamphlet of eleven pages containing all changes in aids to navigation, previously announced by the Light-House Board for this season.

A petition emanating from this port will be sent to Buffalo, Detroit and Chicago for signatures. The desire is to secure an appropriation in the civil sundry bill for the establishment of a light-house at Crisp's Point, twelve miles west of Whitefish, on Lake Superior.

The director of public works, city engineer, vessel-owners and railroad superintendents made a tour of the river on Wednesday afternoon to see what steps could be taken towards improving navigation facilities. Whatever is accomplished in this direction will be due to the well timed and energetic efforts of Director Farley.

Capt. C. E. Benham, managing owner of the schooner Henry C. Richards, which was reported to have damaged the tug Pacific in a collision at the Portage Lake canal, says he thinks the reports were greatly exaggerated, as telegrams from the masters of the Richards and her steamer fail to mention the occurrence. He has learned, however, that the collision had amounted merely to a slight squeeze of the tug as she lay alongside of the dock.

A branch hydrographic office for this port is now assured, the Navy Department having secured sufficient funds to defray office expenses. The dropping of a time ball exactly at noon is a feature of the service, and is invalvable at coast ports for regulating, or at least learning the accumulated errors of chronometers; but considering that there is not a chronometer in lake service, and furthermore that apparent or mean time are now almost unknown quantities here, the dropping of a time ball is a problematical advantage which will not be appreciated for some time at least.

The fourteenth annual squadron sail of the Cleveland Yacht Club will take place on Decoration day. As in former years, the course will be to Rocky river. The flagship Neva will be inside the breakwater enclosure at 9 o'clock a. m., and the starting gun will be fired at that hour. The following named gentlemeu constitute the board of directors: Geo. W. Gardner, W. R. Huntington, F. C. Overbeke, Luther Allen, Percy W. Rice, J. N. Richardson, P. P. Wright, G. W. Luetkemeyer, C. W. Kelly, E. W. Radder, E. A. Overbeke, W. P. Francis, W. H. Kolbe, J. O. Gardner and John Barth.

The court and a constellation of legal talent are still endeavoring to find out who owns the lake shore in this vicinity. The hearing will probably be concluded this week and then Judge Noble has three months in which to render a decision. Considering the mass of evidence submitted, thirteen months would appear none too long a time to review the questions involved, or the arguments pro and con based thereon. Chicago has had the same litigation; Buffalo has also had a dose of it, and other ports would do well to secure indisputable title before their fringe of lake front territory becomes monopolized.

One of the most successful shipmasters is Capt. Orville W. Green, who, I find, has just made his fourth Lake Superior trip this season in the steamer Grffiin, owned by the Lake Superior Mining Co. Capt. Green is an old Oswego man, if I mistake not, and was brought up in the sailing craft which carried on the commerce of the lakes three and four decades ago. His early training seems to have stood him in good stead, and his keeping clear of all trouble certainly verifies the old saying that vesselmen make the best kind of steamboatmen after they get broke in. Last winter Capt. Green visited relatives and friends in California, one at least of which will be remembered as an old time lake seaman named Capt. McDonald, now residing at San Diego, and enjoying besides most excellent health, a fair share of this world's prosperity in matters financial.

The half hearted kind of a strike among the riveters at the Globe yards is in much the same shape as a few weeks ago. Inquiry at the shipyard shows that the men refused to stand by their own agreement. When the steamer Northwest was completed a large number of riveters were necessarily laid off. Taking into consideration the hard times and general lack of work, also the tightness of the money market, General Manager Mr. John F. Pankhurst called the men together, placed the situation before them and stated that to keep them employed he would begin the construction of a new steamer provided they would accept a reduction of pay, otherwise there was nothing else in view but temporary enforced idleness as the company had no recent orders and were not inclined to build on speculation or for their own account. The riveters considered the proposition and accepted the terms, but after working on the new vessel for some time they concluded to leave work unless wages were paid up to the former scale, hence the present lack of employment. Quite a number of young men who have been brought up in the shipyard worked steadily along, however, on the agreed terms and the steel freight steamer is now all in frame and part plated.

Monday and Tuesday were glorification days at this port, the latter day especially. Everyone fell over themselves in doing honor to the passenger steamer North West. Cleveland's most prominent citizens are responsible for the following grandiloquence: "Resolutions adopted by the Cleveland Chamber of Commerce on board the steamship North West, May 22, 1894: Whereas, there has been built at Cleveland the North West, the staunchest and most beautiful exclusively passenger steamship that floats on inland lakes or ocean waters, and this honor having been won by the pre-eminent ability of Cleveland's shipbuilders; and whereas, this superb vessel is a marvel of marine architecture, an extraordinary evidence of mechanical skill and the fulfillment of the highest expectations in naval design and construction, illustrating in a surpassing degree the wonderful development of modern transportation by water, therefore, be it resolved, that the Cleveland Chamber of Commerce, assembled on board this triumph of Cleveland's industries, hereby expresses its proud appreciation of the ship's manifold beauty of design and skill in workmanship, and tenders to the owners, designers and builders of the North West its hearty congratulations upon their splendid achievement. Resolved, that the thanks of the Chamber of Commerce be extended for this excursion, and that engrossed copies of the resolutions here adopted be presented to the owners and builders of the North West." Manager F. P. Gordon was then presented with a handsomely framed copy of the resolutions.

DULUTH, MINN.

Flour shipments are large and the mills are grinding steadily. Flour is so dull, however, that there is not much inducement to run.

The severe storm of Thursday so piled up water in the bay that it reached 18 feet above normal, and several saw mills were obliged to shut down.

The barge Otego, which left Duluth late Tuesday night, was forced to return on Thursday, having sprung a leak. The storm was the worst for years, and no vessels pulled out into it.

It was estimated the first of the week that there were 5,000,000 feet of logs beached and adrift between Duluth and the Cranberry river, 25 miles down the south shore. For miles the beaches are covered with good logs and most of them barked and so badly splintered at the ends as to be of considerable less value than before they broke loose. Half a dozen tugs have been busy picking them up and it is likely that the actual loss of timber will be small. Of the lost logs about 2,000,000 feet went out from the Cranberry as a result of a broken boom. The water has been so high in all the streams that dams and booms have been very hard to hold. Of the rest of the lost logs about 1,500,000 went out from the Quinnicox river, while the Ashland tug Keystone, belonging to the company of that name, lost a raft of nearly 1,000,000 feet more.

Capt. W. H. Singer, a tug owner of Ashland, in speaking a day or two ago of the raft towing trouble said: "The stand for the lumbermen to take in this matter is to insist on the application of the provisions of the bill to certain localities. Now, at Ashland we can tow a raft of almost any size without interfering to any extent with navigation, and here, except in the canal, there is plenty of room. The chief trouble with large rafts is at the Sault, and there the size should be diminished. Men who are buying logs on Lake Superior to saw on the lower lakes are doing it because there is a saving somewhere and they can afford to pay the price of extra towing through the Sault. If the bill passes as it is it will probably about stop raft towing, for it will be nearly if not quite as cheap to ship by rail."

The whaleback steamer Thomson, which went into dry dock at Superior last week for repairs will get out

early this week. The Christopher Columbus is being re-painted and has been re-fitted throughout. She will leave for Chicago, where she is to run this summer as a special excursion boat, before the first of June. The Phœnix Manufacturing Co., of Eau Claire, is re-fitting the Chris' woodwork. The Inman tug Bob Anderson has been thoroughly overhauled, fitted with a new pilot house and rail and had her decks calked.

The Northern Steamship Co. has begun the use of the Transfer Company's dock at Seventh avenue West recently rented. No more package freight will be landed at the Culver dock. This will be used as a terminal dock for the passenger service, the boats not being expected to make Superior at all. The Eastern Minnesota will run special trains to St. Paul and Minneapolis on the arrival of the boats, and from those cities to catch the departing time of the craft. Cars will go right to the dock, out of which the steamships land.

Wheat stocks here and at Superior are growing gradually less. This week's decrease is 559,000 bushels against a decrease for the same week last year of 3,096,000 bushels leaving a total stock to-day of 8,750,000 against 12,234,000 a year ago. There are 143,000 bushels of corn here and 23,500 bushels of rye. At Minneapolis are 10,100,000 bushels of wheat. Nearly all the wheat at both Duluth and Minneapolis will go out as flour from this time on. Rates are very dull on wheat and nearly as bad on ore.

A cargo of barytes will be brought in here in a few days from McKellars Island near Port Arthur. A Duluth company has obtained possession of the island and will work the barytes into commercial products here. They will at present sell the stuff in the ground form only, but expect to manufacture paints, etc., later. This barytes will in time form a very important element of Lake Superior commerce.

The Ashland breakwater was very severely damaged by Thursday's storm. A reporter for the press of that city, who examined it, says: "The damage is confined to the older, 19 feet wide, part, which is 5,680 feet long. I sailed through one of the breaks. Everything was swept as clean as a whistle, not a spile nor a splinter being left to designate where the heavy timbers once stood. About 500 feet was swept away at this point and the filling and lines of spiles have been so twisted and broken that 1,000 feet at least will have to be entirely rebuilt. At two other points the storm did such effective work that a boat can sail right through, and at many other points just one row of very wobbly timber are left. It will be necessary that at least one row of spiles be driven along the entire 5,680 feet to save the old part, with absolute new construction of over 1,000 feet. The heavy stone filling was washed over against the north side, by the terrific force of the waves. It seems almost incredible that water could lift such monstrous blocks of stone, some of them weighing two or three tons. Only at the extreme outer point was the new portions of the breakwater completed last season, injured. About thirty feet is washed away at this point, leaving only one row of piles. It is plainly evident that the greater width and strength of the new portions is what gave it the strength to withstand the storm, while the other original portions gave away. It is constructed with three rows of piling, instead of two, is braced more strongly and is filled more solidly, besides being twenty-eight instead of nineteen feet in width. Its line is still very true. This breakwater cost the government $180,700.

PORT HURON, MICH.

The common council on Monday evening adopted a resolution expressing their sympathy and sorrow for the families of Capt. Henry Little, Barney Mills, Angus King and William Lewis, the gallant fellows who gave up their lives in the desperate attempt to rescue the crew of the wrecked schooner Wm. Shupe and their gratitude to the surviving life-savers for their heroic and successful action.

It was also resolved that a committee of three citizens be appointed to secure the Sand Beach life-saving crew also volunteer life-savers, Dan Lynn, Chris Randall, Charles Conkey and Capt. Cox and crew of the tug Thompson, proper recognition for their gallant and heroic efforts to save life. Ald. Jenks, Watson and Carson were appointed such committee.

A committee, composed of Ald. Strout, Aungee and West, was also appointed to look after the dependent widows and children of the men who lost their lives in the heroic work of rescue.

The council also instructed the city officials to confer with the representatives in Congress and Senators from this state regarding the establishment of a life-saving station near this city.

DETROIT, MICH.

The steamer North West has carried this port by storm, the same as she did at Buffalo and Cleveland. Free excursions, highly laudatory speeches, general congratulations and everyone shaking hands with himself and others in trying to do honors to the highest type of marine architecture ever floated on the lakes is the order of the day and pertinently so too.

Capt. M. W. Humphrey says that he will not charter anything of which he has the management until he can get 50 cents a ton for carrying coal out of Cleveland and 2 cents per bushel for wheat to Buffalo. The firm of Parker & Millen seem to be of much the same opinion.

The steamer Charles Hebard has been placed in dry dock to have the repairs made which are required in consequence of her collision with the steamer Mariposa.

Surgeon Stimson, of the marine hospital, has been required to vaccinate all the employes of the Detroit, Belle Isle, & Windsor Ferry Co. There are about fifty men in all.

Frank E. Kirby has returned from Chicago, where he submitted preliminary plans and specifications to the Goodrich Transportation Co. for a new passenger steamer. Matters have not yet progressed far enough so that anything of a definite character can be said regarding the proposed new boat. It is, however, considered pretty well settled that a contract will soon be let for a modern steel passenger steamer.

Notwithstanding the repeated assertions that the secretary of the treasury has called for the resignation of Supervising Inspector Westcott. Capt. Westcott is uninformed of the circumstance.

ST. JOSEPH, MICH.

Special Correspondence to The Marine Record.

A new steamboat line between here and Chicago was organized to-day by E. W. Seymour, general manager of the Northern Michigan Transportation Co., of Chicago, and capitalists of St. Joseph and Benton Harbor. The company will put on two boats, one of which will be the Puritan and will be known as the Seymour Transportation Co. The Chicago dock will be at the foot of Michigan street. The line will go into operation June 4, and will run in connection with the St. Joseph and Lake Shore R. R.

During the heavy storm Saturday the sea worked its way under the north pier at St. Joseph, making a break about fifty feet wide, allowing the sand to work through the crevice and the result was that a bar was soon formed between the two piers. It is highest near the north pier and extends about six rods across the channel. Vessels are warned in entering the harbor to keep close to the south pier. One of the Life Saving crew has been kept constantly on watch at the end of the piers to warn the captains of approaching vessels of the danger. The break will be repaired and the bar removed as soon as possible.

STAGE OF WATER AT ST. MARY'S FALLS CANAL.

DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

Depth of water at the Sault Ste. Marie canal for the week ending May 24, 1894:

May	18	8 a. m.,	14	feet	8	inches.	8 p. m.,	14	feet	7 inches.
"	19	"	14	"	7	"	"	14	"	8 "
"	20	"	14	"	8	"	"	14	"	9 "
"	21	"	14	"	8	"	"	15	"	0 "
"	22	"	14	"	7	"	"	15	"	0 "
"	23	"	14	"	10	"	"	15	"	0 "
"	24	"	14	"	10	"	"			

LOG BOOK JOTTINGS.

The steamer Saint Paul has been placed in ordinary at Detroit, awaiting a raise of freights.

The lumber cargo of the wrecked schooner William Shupe was insured with Smith, Davis & Co., of Buffalo, for $1,800.

The schooner C. C. Barnes went up so high when she stranded that the seas could inflict no great damage on her. The work of releasing the vessel will be immediately let to the lowest bidder.

The insurance on the hull of the Mineral State, which was scuttled at Elk Rapids, Mich., in the recent gale, to prevent her breaking up was placed with Union Marine for $1,000; Commercial Union for $1,000 and the Orient for $700.

A survey of the damages to the steamer Charles Hebard by her collision with the Mariposa at the mouth of Saginaw Bay, on the morning of May 7, was made at Detroit Monday by J. M. Jones and John Oades. The damages were assessed at $4,557. The Hebard is at the Detroit Drydock Co.'s works undergoing repairs.

The steamers Visitor and Leroy Brooks, of Put-in-Bay, which were seized by the Canadian Government, will be appraised at Amherstburg, so as to allow the owners to bond the boats pending the trial on the charges now specified. The cause on which the boats were seized—violation of the Dominion fishery laws—has been dropped, and a dozen or more charges of entering and leaving Canadian waters without entering or clearing at a Canadian custom house substituted therefor. The boats, if bonded, will return to Put-in-Bay. The fine for failure to report and take a clearance on the Canadian side is $2,000 in each instance.

ARE THERE SEA SERPENTS?

The question of the existence of the sea serpent, writes President David Starr Jordan, of the Leland Stanford University, in a communication to the San Francisco *Examiner*, is solely one of fact. There is no *a priori* reason why such reptiles could not exist, and creatures to which such a name would apply did exist in abundance in mesozoic times. Nevertheless, although there have been many reports of the discovery of the "sea serpent," there is not at present the slightest evidence to prove that such a creature now inhabits the sea. It is not within the realm of probability that any marine reptile of large size other than sea turtles now exists.

The sea has been as fully explored as the land. The fishes of the sea, from the surface to the depth of five miles, are as well known as the animals of similar size on any of the continents except Europe. The larger animals which swim near the surface in the open ocean are for the most part well known, and have been known ever since oceanic navigation began. Probably not half a dozen species of marine animals reaching a length of 15 feet have been discovered in our century. Most of those now known were known to the ancients.

The sea serpent stories may be classified as follows:

1. Pure inventions, forecastle yarns, etc.
2. Alcoholisms.
3. Stories with a foundation of fact, the basis being a seal, a fragment of a wreck, a long strip of kelp, or some other natural object mistaken for a serpent.
4. Practical jokes, as the india-rubber sea serpent seen on Silver Lake, N. Y., about 1855. This appeared usually in the evening and in sight of the veranda of the hotel.
5. The great oarfish, or king of the herrings (regalecus glesne). This is a long, slender, ribbon-shaped fish of the open sea. It swims in swift undulations, with great speed, on the surface of the water. It reaches a length of 20 feet or more. The dorsal fin on its head forms a high crest, like the mane of a horse, and the fish is altogether a striking object. It has been but once taken in American waters, a specimen having come ashore in Bermuda some years ago. This fish is remotely allied to the mackerel. According to Dr. Goode, all the stories of sea serpents with "upreared head and the mane of a horse" can be referred to Gegalius.

A smaller fish of this type, too small to seem like a serpent, is occasionally taken off our coast and known as the king of the salmon (Trachypterus rex salmonorum). The Chinnock Indians believe that if this fish is caught the salmon will cease running. A similar noxious influence is exerted by the birth of twins. Other swift-moving, ribbon-shaped surface fishes as the thread-eel, the cutlass fish, etc., have been reported as young sea serpents.

6. The great frill-shark (Chlamydoselachus anguineus) has been reported as a sea serpent. It was correctly drawn as such by a Maine fisherman before its occurrence in the Atlantic Ocean was known. This is a very rare shark, as slim and flexible as a snake, and grows to be some 15 feet or more in length. It has the general structure of the shark, or rather of the extinct shark, for one has to go back to the carboniferous age to find any more like him. This shark, with its frill of gills about its neck, is one of the rarest of fishes, only about four existing in collections. It is thought to be the oldest living vertebrate, for all other sharks of similar structure have long since passed away. It is the original of the sea-serpent that swims low with its head under water.
7. The great killer, or gladiator (Orcaorca). This creature is a water mammal, allied to the porpoise and dolphin. It is very swift and strong, and of so savage a disposition that it is the terror of whales, seals, sharks swordfishes and of large fishes generally. It reaches a length of 20 to 30 feet. It is ordinarily detested by fishermen, but last summer it served them a good turn by "roundin up" in Monterey Bay the shoals of salmon from the neighboring ocean.

In its spiteful attacks on the whale—and it will kill even the biggest of them—it has been taken for a sea serpent. Its sword-shaped dorsal fin, some six feet high, helps on the illusion. All the sea serpents which attack whales, "choking them in their gigantic fold," and "lashing the water for rods into bloody foam," are doubtless killers.

8. Venomous little sea snakes exist in the Indian Ocean. These are well known, and are never taken for "sea serpents."

IN times past there has been more or less well founded complaint by shipbuilders and outfitters against the character and quality of certain makes of life preservers and ring buoys. The best is none too good when it comes to providing articles in which the question of the safety of human life is a consideration. It is therefore with some satisfaction that life preservers, block or granulated cork, as the purchaser may desire, of uniform quality and thorough going excellence and reliability, are offered the shipping trade by such well known firms as Armstrong Bros. & Co. (Inc.), Pittsburg, Pa.; the Armstrong Bros. Co., New York; Fay, Armstrong Cork Co., Chicago, and the Armstrong, Gilbert Cork Co., St. Louis. Prices and full particulars concerning these goods will be promptly furnished on application.

STEAM STEERING GEAR.

(ILLUSTRATED.)

A steam stearing gear which is very easily operated and very successful is now being manufactured by Wickes Bros., of East Saginaw, Mich. It was designed by their mechanical engineer, Mr. Heyde, for use on one of the tugs in the Saginaw river, but has since been applied to other vessels, and will probably find an application on many of the larger steamers. By an examination of the engraving the construction and arrangements of the mechanism will be readily understood.

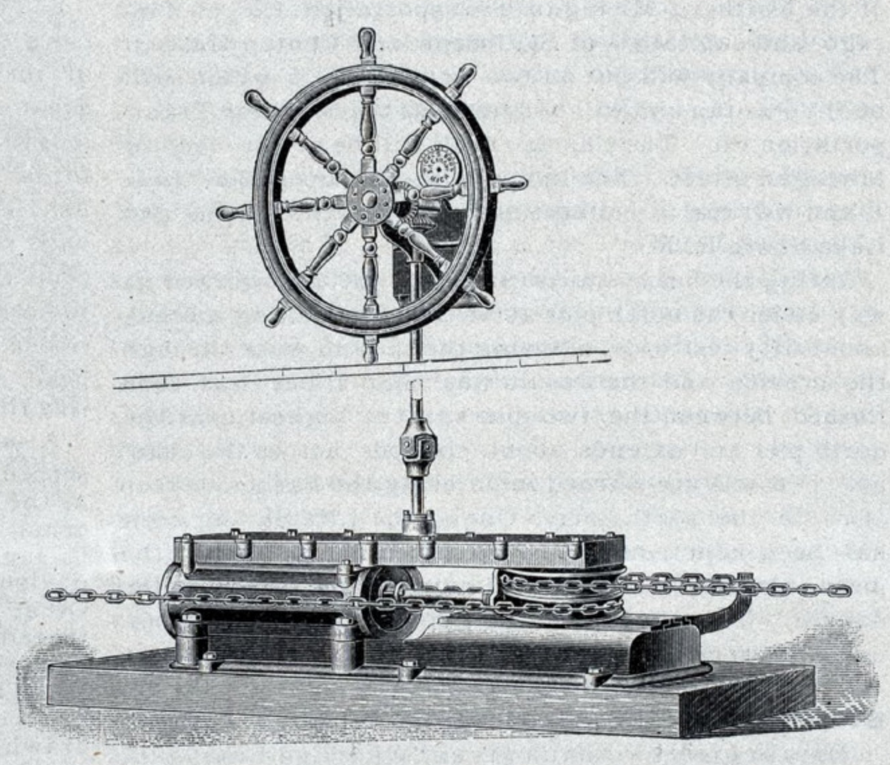
The wheel in the wheel house carries on its shaft, between the supporting-post and the outer wall, a miter gear which meshes in with another gear on a vertical shaft that extends down to a point below the deck where the steam steering gear is located. The lower end of this shaft carries a small clutch, and below it a spur pinion, which is loose on the shaft, and is furnished with a clutch meshing in with the one already mentioned. Still further below this there is another pinion of the same diameter as the first, but keyed rigidly to the shaft. The sheaves over which the tiller chains are run, are carried in a strap bolted rigidly to the piston-rod, and these chains, as will be seen by a reference to the engraving, are so arranged that, for every foot of motion of the piston-rod 2 feet of tiller chain are either slackened off or taken in. Over the top of the cylinder there are two racks, one of which is movable and the other is rigidly fastened to a stem carried by the strap of the tiller sheaves, and which moves backward and forward with these sheaves. These racks have teeth, each the width of the pinions already referred to as being upon the vertical shaft, but the top edge of the movable rack is on a line with the lower edge of the rack attached to the piston-rod, so that the loose clutch pinion meshes in with the rack attached to the sheaves while the pinion that is rigidly keyed to the shaft meshes in with the movable rack.

The valve is a piston valve especially designed by Mr. Heyde, and detailed illustrations of which we will publish in a future issue, in connection with engines built by the same firm. In this instance this piston-valve takes steam at the center and exhausts at the end, so that the motion of the valve for admission of steam is contrary to that of the ordinary D-valve, being in a direction opposite to that which it is proposed that the piston shall move. The valve stem is moved by a rocker arm that is pivoted at one side of the cylinder, and at its central point carries a pinion that has a depth sufficient to mesh in with a movable rack and the one attached to the piston-rod. If, then, the wheels turn so that the shaft turns in the direction of the motion of the hands of a watch as looking at it on the plan, it will be seen that the first motion is that the lower pinion keyed to the shaft will turn the movable rack to the right. As the piston is practically rigidly fixed in its position, the rack fastened to it is also stationary. Therefore, as the movable rack is carried to the right, it turns the pinion of the rocker shaft and also carries this rocker shaft to the right. The valve taking steam at the center position opens the port at the right-hand side and admits steam to the right end of the cylinder. This opens the exhaust from the other end and carries the piston to the left. The first movement of the piston is to draw in the tiller chains and at the same time it turns the loose pinion on the vertical shaft, until it comes up against the straps of its clutch. At the same time, the vertical shaft being stationary, it holds the movable rack rigidly in position. Therefore, as the piston moves in it rolls the pinion on the rocker arm back with it and closes the valve. The moment the valve is closed steam passes over a port similar to the Allen port to the opposite end of the cylinder, and this locks the piston so that the motion is comparatively slight. If it is desired to run the tiller hard over in either direction, it is simply necessary to keep the wheel revolving so that the motion of the movable rack counteracts that of the rack fastened to the piston. When this is done the pinion on the rocker arm merely revolves and the valve remains in the open position to which it was carried by the first motion of this rack.

It is impossible to give an idea of the delicacy of the adjustment of this apparatus without an actual inspection of the machine at work. It will be readily seen, of course, that the power required at the wheel is almost infinitesimally small, there being no strain in any way, except to move a perfectly balanced piston-valve, and with the leverage given this is of course almost imperceptible.

An indicator in the wheel house shows the position of the tiller at all times. Various sizes are made for steamers of different lengths and owing to the delicacy of the adjustments and the direct action obtained, together with the multiplication of the power on the cylinder, those cylinders are very much smaller than those ordinarily used for steam steering gears.

This apparatus can be immediately changed from steam to hand power by simply closing steam throttle which is located in pilot-house.



WICKES BROS'. STEAM STEERING GEAR.

MARITIME LAW.

HAWKINS vs. THE VIOLA.

District Court, S. D. New York, March 5, 1894.

SHIPPING — DAMAGES — ACT FEB. 13, 1893 — VESSELS MUTUALLY AT FAULT — LIABILITY FOR CARGO DAMAGE. Section 3 of the act of February 13, 1893, was not designed to relieve one vessel at the expense of the other, in case of collision by mutual fault. The prior rules of apportionment are to be adhered to as closely as possible. Hence, when damage has occurred by reason of the mutual fault of two vessels, the damages of the two vessels including personal effects, (which are to be treated as part of the vessel,) are first to be made even. The North Star, 1 Sup. Ct, 41 106, U. S. 17. Either vessel whose cargo has been damaged cannot be charged, directly or indirectly, with any part of the loss suffered by her own cargo, nor can any offset against the carrying vessel's claim for her own damage be made by the other vessel on account of what the latter must pay for the carrying vessel's cargo damage; but the claim of the cargo of the carrying vessel must be reduced by the amount which would, before the passage of the above act, have been charged against such carrying vessel, or against the moneys payable to her.

BROWN, District Judge.

As stated in the previous decision in this case, (59 Fed. 632,) it seems to me beyond doubt, that congress, by the act of February 13, 1893, (27 Stat. 445,) did not intend to legislate generally concerning the rights or liabilities growing out of collisions, but designed only to deal with the carrying vessel and her own cargo. Upon that view, all the principles and rules of decision previously applicable as to the apportionment of damages in cases of mutual fault should be still followed as closely as possible, and no more changes admitted than the evident intent of the above-named act necessitates. The two fundamental principles, now fully established by the Supreme Court, (1) that each vessel in fault shall bear an equal portion of the whole loss; and (2) that the innocent cargo owner may recover in full from either vessel, (The Alabama, 92, U. S. 695; The Atlas, 93, U. S. 302,) must still be applied so far as is compatible with the new act; but as these rules have in the past been subject to modifications in particular cases, through the operations of the limited liabilitiy acts, so the act of February 13, 1893, imposes further modifiications upon both these rules as applied in particular instances. The owner of the carrier vessel being no longer liable for the losses sustained by her own cargo through faults in her navigation, is not bound to admit, in case of her total loss, of any offset in favor of the other vessel for the half of what the latter may be bound to pay on account of the cargo of the former; and this introduces an important modification of the moiety rule as heretofore administered.

On the other hand there is not the least indication in the act above named that it was the intention of congress to relieve the carrier vessel at the expense of the other vessel in collision cases; that is, to increase the liabilitiy of the latter beyond her former liability under like circumstances. Such a result is not only plainly outside the scope of the act, but would be in itself so unjust that the third section of the act ought not to be so construed or applied as to work that result. This will be avoided by the simple and natural construction of section 3 as meaning that the cargo loss i. e. so much of it as would previously have been charged against the carrier vessel, shall now be born by the cargo owner. This will leave the liability of the other vessel in collision in every case precisely as before the act; and such is the construction which, it seems to me, ought to be adopted.

This construction is further recommended by the nature of the different provisions of the act of February 13, 1893, which seems to aim at a sort of adjustment or compromise of opposing interests. The first two sections disable the ship from freeing herself from certain liabilities to her cargo by numerous restrictions which have heretofore been very widely inserted in bills of lading; and in return for these beneficial provisions in favor of the cargo, the cargo seems designed to bear the losses from faulty navigation that would have previously been charged upon the ship. If that is the design of the act, it would be incompatible with it to permit the cargo owner to turn upon the other vessel to recover what the act disables him from recovering from his own, to the increased detriment of the other vessel.

Again, the third action of the act is broad enough literally to exempt the other vessel entirely. It is by construction alone that this result is avoided, i. e. on the view that the act was not designed to affect the relations between the cargo and other vessels. Consistency, therefore, requires that the extent of the liability of the other vessel as fixed by the previous law, should remain unchanged. Until further advised, therefore, the adjustment of the various demands in cases of collision by mutual fault, will be made upon the principle that neither vessel is to be charged with any greater aggregate since this act than she would have been charged before, under like circumstances; that the losses to the two vessels themselves should be first made even, (The North Star, 106 U. S. 17 1 Sup. Ct. 41,) including personal effects, which are to be treated as part of the vessel; that the carrying vessel cannot be charged for any part of the loss suffered by her own cargo directly, or indirectly, nor can any offset against her claim to damages be made by the other vessel on account of what the latter vessel must pay for that cargo damage; but that the same offset which would have been formerly allowed against the carrying vessel, or against the moneys payable to her, should now be deducted from the claim of her cargo.

This construction, while closely adhering to the apparent intend of the act of 1893, works the least possible change in the fundamental equitable principles of division in cases of mutual fault, as previously applied. Under this construction the cargo owner, whenever the surviving vessel is of sufficient value, will always be paid at least one-half his loss, and sometimes in full; as where the damages to the cargoes on both vessels are equal.

If vessels A and B are each damaged $10,000, and only A's cargo damaged—say $5,000—B should pay $2,500 for half the cargo damage; for B thus bears one-half the whole loss as before. If A's loss was $2,000, and her cargo's $4,000; B's $8,000, and her cargo's $6,000; then B after receiving $3,000 from A, should pay A's cargo in full, since that would not exceed half the aggregate loss; while A should pay B's cargo but $5,000, as this would reach A's limit of half the entire loss; and A could not offset against B's claim any further payment to B's cargo. If the cargo losses had been $5,000 each, each would be paid in full.

If A and her cargo were each damaged $10,000, while B and her cargo sustained no damage, A's cargo loss might be required to be paid in full by B before equalizing the losses between the two vessels alone, if such payment could be lawfully offset by B against A's loss of $10,000. But as A is in no way responsible for any part of her own cargo loss, I do not see how such payment by B could be availed of as an offset against A's claim for half her damage; and since B's aggregate liabilitiy should not be increased under the act of 1893, the mode indicated in the case of The North Star, supra, must, I think, be followed in all such cases.

The present case is, in principle, like the last illustration. The loss of the libelant's vessel including freight and personal effects, was about $5,930, and that of her cargo about $1,300; the damage to the Viola about $260, and to her cargo nothing. The libelant's vessel and her cargo were a total loss. The Viola has been sold, and her proceeds, in the registry of the court, less the marshal's expenses, amount to about $3,440. Upon the adjustment of the cost and marshal's fees, virtually paid by the defendant, a balance of $111.74 against the libelant reduces his claim on his vessel's account with interests to about $2,723, against the Viola to equalize the loss between the two vessels. As no part of the cargo loss can be offset against the libelant, the cargo must bear one-half of that loss itself, and the defendants pay the other half, which will make the amount, which the defendants would previously have been called on to pay. After paying these amounts, the surplus of the proceeds of sale will be about $70, which will, therefore, belong to the defendant.

Decree accordingly.

ST. MARY'S FALLS SHIP CANAL.

TRAFFIC STATISTICS FOR 1893.

Gen. O. M. Poe has prepared the following report of the business done at St. Mary's Falls Canal. The report has been sent to Congress by Secretary of War Lamont and ordered printed:

Total mile-tons, 8,980,310,240.

Average distance freight was carried, 831.9 miles.

Number of registered craft using canal during the season was: Steamers, 459; sail vessels and barges, 294; total, 753.

Number of unregistered craft, 213.

Total freight carried by registered craft, 10,757,237 tons.

Total freight carried by unregistered craft, 39,335 tons.

Total passengers, 18,869.

Total value of registered craft, $41,133,100.

Total freight carried by Canadian vessels, 444,045 tons.

MILE-TONS SEASON OF 1893.

Cost of carrying freight transported through St. Mary's Falls Canal.

ITEMS.	Units.	Quantity.	Price pr Unit	Amount.
Coal	Tons	3 008 120	$ 40	$1.203.248 00
Flour	Barrels.	7.420.674	17	1,261.514.58
Wheat	Bushels.	43 481.652	.028	1.217.486 26
Grain, other than wheat	Bushels.	2 405.344	.02¾	66 146 96
Manufactured iron	Tons.	57.046	2 00	114.092.00
Pig iron	Tons.	32.406	1 30	42 127.80
Salt	Barrels.	228 730	.12	27.447.60
Copper	Tons.	87.530	1 75	153 177 50
Iron ore	Tons.	4.011.556	.80	3.211.644 80
Lumber	M. Ft.	588 545	2 35	1,383.080.75
Silver ore and bullion	Tons.	2 470	2.25	5,557.50
Building stone	Tons.	17.426	1.36	26 419 36
Miscellaneous mdse	Tons.	415 180	3.00	1.245.540 00

In this table "tons" mean net tons of 2,000 pounds. The total amount of freight paid is $9,957,483.11, which divided by the total mile-tons, 8,980,310,240, gives the cost per mile per ton as 1 1-10 mills. The average distance that freight was carried was 831 9-10 miles, which was 9 5-10 miles greater than in 1892. The average cost per ton for carrying freight was 92 2-10 cents. The number of registered crafts which used the canal during the season was: Steamers, 459; sail, 294; total, 753. The total freight carried by American unregistered craft amounted to 9,878 tons in 156 passages, an average of 63 and 641-2000 tons of freight per passage. The total freight carried by Canadian unregistered craft amounted to 29,457 tons in 57 passages, an average of 516 and 1578-2000 tons of freight per passage.

AMERICAN.

CLASS.	No.	Registered Tonnage.	Freight Tonnage.	Pas-seng'rs	Valuation of Vessels.
Steamers	420	387.737	7.364.479	9.813	$32 154.900
Sail	272	172.987	2.978.170	....	6 862 500
Totals	692	558.724	10 342.649	9.813	$39.017.400

CANADIAN.

CLASS.	No.	Registered Tonnage.	Freight Tonnage.	Pas-seng'rs	Valuation of Vessels.
Steamers	39	20 420	358 674	9 056	$1.907 200
Sail	22	9.019	55.914	....	208,500
Totals	61	29 439	414 588	9.056	$2 115.700

SUMMARY.

Total number of registered craft	753
Total passage by unregistered craft	213
Total freight carried by registered craft, tons	10,757,237
Total freight carried by unregistered craft, "	39,335
Total passengers	18,869
Total valuation of crafts registered	$41,133,100

The Canadian freight amounted to 444,045 tons, which is 4 1-10 per cent. of the total freight for the season. The total passages for the season amounted to 12,008 and 1,632 of these were by 86 craft under 100 tons register. Their aggregate registered tonnage was 2,494, and their average tonnage 29 tons. The freight carried during the season by these craft only amounted to 762 tons. From the column of largest cargoes it is ascertained that there were 91 propellers that carried in their largest load 2,000 tons and upwards; that these 91 cargoes aggregated 204,709 tons and averaged 2,250 tons. There were 31 propellers that carried in their largest load 2,500 tons and upward, aggregating 82,999 tons and averaged 2,677 tons, and 14 propellers that carried in their largest load 3,000 tons and upwards, aggregating 45,964 tons and averaged 3,283 tons. There were 12 sail vessels that carried 2,000 tons and upwards, aggregating 26,007 tons and averaged 2,167 tons; 20 sail vessels that carried 2,500 tons and upwards, aggregating 55,743 tons and averaged 2,787 tons, and one sail vessel that carried 3,000 tons and upward, aggregating 63,152 tons and averaged 3,007 tons.

The decreased cost of traffic is shown by the following summary of freight rates for the years 1887 to 1893, inclusive:

The total freight carried by American unregistered craft amounted to 9,878 tons in 156 passages, making an average of 63 and 641-2,000 tons of freight per passage.

The total freight carried by Canadian unregistered craft amounted to 29,457 tons in 57 passages, making an average of 516 and 1,578-2,000 tons of freight per passage.

The Canadian freight was 4 1-10 per cent. of the total freight for the season.

The total passages for the season amounted to 12,008, and 1,632 of these were by 86 craft under 100 tons register; their aggregate registered tonnage was 2,494, and their average tonnage 29 tons.

The freight carried during the season by these craft only amounted to 762 tons.

The greatest number of miles run during the season is to the credit of the propeller Matoa, of the Minnesota Steamship Line, of Cleveland, O., and amounted to 42,939 miles.

The greatest amount of freight carried during the season is to the credit of the propeller Mariposa, of the same line aggregating 87,760 tons.

The greatest number of miles-tons for the season is to the credit of the same boat and is 73,086,136.

The largest single cargo carried during the season is to the credit of the propeller Selwyn Eddy, of Bay City, Mich., and amounted to 3,686 net tons.

The largest single cargo carried by a sail vessel (a barge) is to the credit of the American Steel Barge Co.'s tow barge Sagamore, and amounted to 3,232 net tons. This barge earned the same credit during the season previous.

The canal was open to navigation during the season of 1893, 219 days, which is a decrease of 14 days in comparison with 1892. The amount of freight carried during the season of 1893 amounted to 10,796,572 tons, which is a decrease of 417,761 net tons in comparison with the season of 1892, or 2 73-100 per cent. less than the season previous.

It is found by the discussion of the reports of the watchmen stationed at the head of the canal that vessels were delayed at the canal during the season 37,877 hours and 18 minutes, or an average of 3 hours and 15 minutes. These records also show that vessels were detained by the railroad swing bridge being closed 9 minutes, and that the closing of the bridge was only delayed by boats 5 hours and 24 minutes.

THE NICARAGUA CANAL.

A plan for the completion of the Nicaragua canal by this government by a new system of financiering has been introduced into the House by Congressman Bryan of Nebraska.

The stock of the canal is to consist of 1,000,000 shares of $100 each for which legal United States notes, identical in character with those issued under the act of Feb. 25, 1862, are to be issued, redeemable to the same extent and in the same manner as the notes of 1862.

The Secretary of the Treasury is to purchase $70,000,000 of the stock of the company and to pay for it in par by the notes described, which are to continue in circulation as a part of the currency of the company. Six million dollars of the capital stock is to be issued to the government of Nicaragua, $500,000 to Costa Rica, and the remaining $23,500,000 is to be held in the treasury until the government decides whether to purchase it or permit it to be sold by subscription, except an amount not to exceed $7,000,000, to be used by the company in taking up its outstanding debts.

Provision is made for an immediate issue of $2,000,000 as a working capital and the issue of the remainder in quarterly installments as may be necessary to carry on the work of construction.

A LAKE SAILOR'S EARNINGS.

Judge Seaman, of the United States District Court at Milwaukee, this week heard the case of Mrs. Ulrich Anderson, a seaman's widow, who demands $5,000 damages for the loss of her husband, who was killed in a collision on the lake last year. The claim was filed against Anson A. Bigelow, the owner of the schooner William Aldrich. Mrs. Anderson has three children to support. A number of practical sailors were examined to ascertain what the earning capacity of an able bodied seaman on the lakes is. They agreed that a man could earn $250 in a season of seven months, exclusive of his board, which is always found. Judge Seaman wanted to know how much of this the man used for his personal expenses and the estimate of all the witnesses was about $50, which would leave $200 for his family. A witness stated that three years ago a sailor could earn $50 or $60 a month, but he admitted that many were laid off while in port and received no pay. The pay now ranges from $1.50 to $3 a day. The deceased worked in the ship yard, boiler works and cutting ice on the river during the winter months, and always received $2.50 a day. Mr. Hoyt, attorney for the plaintiff, said $5,000 would give the widow $300 a year, or just about enough to get along with, and she ought to have the full amount.

Judge Seaman took the case under advisement.

NEW ENGLISH—CANADIAN LINE.

Specifications for steamers for the new England and Canada mail service have been completed and contracts awarded to five shipbuilding firms in England for their construction.

The specifications are for five large steamers—four for the Atlantic and one for the Pacific service. Probably three more will be added to the Pacific line, making possibly a fortnightly service, if the Ottawa conference recommends that Australia subsidize the Canadian-Australian Co., and the recommendations are carried out.

The dimensions of the Atlantic vessels are 572 feet; breadth, 62 feet; depth, moulded, 42 feet; load draught, 30 feet. The vessels will be two feet deeper than the Campania of the Cunard Line, but will carry 900 tons less fuel than the Campania, owing to the shorter voyage.

Each vessel will have accommodations for 300 saloon passengers, 200 second cabin and 1,000 steerage passengers. The engines will be of 21,000 horse-power and the speed in ordinary weather will be 20 knots. The British port of call will be Southampton, Milford, Haven or Liverpool.

GENERAL AVERAGE CLAIMS.

The reform of general average claims was the subject of a recent address to underwriters and shipowners by Mr. Douglas Owen at London Lloyds, according to *Transport* Mr. Owen traced the origin of the usage, pointing out that when maritime commerce was in its infancy it was usual for merchants to travel with their goods. In case of sudden emergency at sea, it often became necessary for the common safety to jettison the cargo or to cut away a mast or spars. In such circumstances it would be agreed among all parties to the adventure that, on arrival of the ship, the loss, or "average," as it was termed, so arising, should be ascertained and apportioned among the co-adventurers generally, according to the value of the property saved to each. Hence the term "general average." When marine insurance by third parties was invented the old usage generally became superfluous. The underwriters of the property now pay for it in the first instance, but continue, in effect, to send round the hat among themselves, and the cost of this process adds 12 per cent. to the original loss, and entails endless complications and frequently years of delay. When there was no other system of insurance, and goods were carried in small sailing ships, it was reasonable enough, but now that perhaps a score of train loads of mixed goods were carried in what was practically a huge floating warehouse, it was an unworkable absurdity. The object of the lecturer was to show by what a simple process the cumbrous and expensive obsolete system could be abolished, and at how great a gain both to underwriters and shipowners. Neither of these important communities could lose by the change, and both would be substantial gainers by it. Nothing could be easier than to effect the change. All that shipowners need do was to add a few words to their bills of lading expressing the altered arrangement, and both shippers and underwriters would support their action. Shipowners might hesitate to make so radical a change while they were doubtful as to the manner in which underwriters would regard it; but it was altogether unreasonable to suppose that they would wish to maintain the old system when once satisfied that underwriters would welcome its abolition.

PUMPING THE CLOUDS.

Secretary Morton, chief of the Department of Agriculture, has received a large number of inquiries from all parts of the country as to the result of the department's rainfall experiments and the feasibility of controlling precipitation by means of explosions. The following circular is being sent by the department to all inquiries:

"Replying to your letter as to rainmaking experiments, I have to inform you that in no case did they pass the merely experimental stage, and that the prospect of ultimate success is not such as to justify farmers or other citizens in rain-making experimentation. In this determination, judgment and opinion, I am supported by the scientists and other alleged experts in meteorology connected with the United States Weather Bureau. The bombardment of the skies for water, as carried on by this department, did not produce results calculated to inspire the hope that any method of concussion can be made commercially successful in precipitating the moisture from the clouds."

FREIGHT RATES ON ARTICLES OF COMMERCE THROUGH ST. MARY'S FALLS CANAL FOR SEASONS INDICATED.

Year.	Coal net ton.	Flour bbl.	Wheat bu.	Grain bu.	Corn bu.	Oats bu.	M'f'd iron. net ton.	Pig iron net ton.	Salt per bbl	Copper net ton.	Iron ore net ton.	Lumber M. ft.	Silver ore net ton.	Bld'g stone net ton.	Gen'l mdse net ton.	Total cost of transportation.	Average distance carried.	Cost per mile ton
1887...	90	29	*	7	†	†	$2 35	**	$ 18	$2 60	$1 75	$4 00	$3 00	$1 15	$4 00	$10 075 153 13	811 4	2 3
1888...	70	17½	3½	‡	4⅓	5	1 80	$1 30	16	2 35	1 28	2 80	1 90	2 05	3 00	7 883 077 40	806 9	1 5
1889...	47	18	4	3¼	†	†	2 10	1 45	18	2 25	1 14	2 70	1 90	2 05	3 00	8 634 246 63	790 4	1 5
1890...	45	13	3	....	3	2	1 34	1 35	15	2 38	1 10	2 38	2 25	2 00	2 75	9 472 214 90	797 2	1 3
1891...	43	15	4 6-10	3½	†	†	2 50	1 17	18	2 00	98	2 70	2 25	2 00	3 58	9 849 022 81	820 4	1 35
1892...	41	16½	3 6-10	3¼	†	†	2 15	1 23	15	1 40	1 00	2 95	2 25	1 67	3 60	12 072 859 88	822 4	1 31
1893...	40	17	2 8-10	2¾	2½	†	2 00	1 30	12	1 75	80	2 35	2 25	1 36	3 00	9 957 483 11	831 9	1 1

THE MARINE RECORD

ESTABLISHED 1878.

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CLEVELAND, O., MAY 24, 1894.

EVIDENTLY the vessel owners of the lakes are averse to having such a club hanging over their heads as clause seven of the Lockwood Immigration bill would be. This clause calls for an owner to vouch for every individual shipped on his vessel as being an American citizen and in the limited time allowed for replacing hands the officers of the vessel would have little or no chance to make certain of the authenticity of the vouchers presented by the individual desiring to ship. Harvey D. Goulder, Esq., general counsel of the Lake Carrier's Association, the Hon. R. C. Parsons and Capt. J. S. Dunham, of Chicago, are now in Washington attending to such legislative action as the foregoing.

IN so far as the Weather Bureau predictions are concerned it can not be said that fair warning was not given of the storm approaching on the 18th inst, yet, it is doubtful if a single vessel paid any attention to the forecast, or anticipated the weather it heralded. The loss of property and lives was confined to sailing vessels, hence, the tonnage which should more closely observe and be guided by the advice of our "weatherologists." Forecasting is not the hit or miss ology which too many of the men in charge of sailing vessels still believe it to be, and no matter how weather-wise they may personally consider themselves, the Weather Bureau experts are incalculably ahead of them, as they righteously should be.

THE handsome twin screw passenger steamer Northwest will be at the head of the lakes early in June, commencing her schedule time. The World's Fair Steamship Co.'s "whaleback" Christopher Columbus, now undergoing a most complete overhauling at Superior, will also be about ready to open up the season at that time. Now, does the wily whaleback inventor intend to churn up the waters of Lake Superior with the whaleback's screw at the same time that the Northwest is walking over the ground to the eastward bound down? Capt. Alexander McDougall is just keen enough and is imbued with a big enough share of the dogged pertinacity of the "canny Scots" to lay his ropes for the event and enjoy such a contest as the differing types would admit of. There can be no doubt that the speed record made by the "Chris" between Chicago and Milwaukee last season would allow her to hang on to the quarters of the Northwest in a highly tantalizing manner, besides, her engines must now be working comparatively smooth and she would have all to gain and nothing to lose by keeping company with Belleville boilers, quadruple expansion engines and twin screws on the way down.

RELATIVE to the loss of life on Friday between Milwaukee and Chicago, a contemporary truthfully states: "Where such gallant efforts were made for the rescue of life it sounds harshly to find fault with their lack of success. The fault lies not upon the crews of the life boats and of the tugs, but upon the insufficiency of the means at their disposal. The storm was one in which a tug could not live, and the life boat was upset as easily as if it had been a wash tub. The service by rockets and other line-carrying devices proved miserably incompetent. Then there was the blunder of the United States marshal who telegraphed to Racine for a surf boat when a life boat was needed. One lesson of the storm is as to the need of an increase of the number of men, boats, mortars and life saving implements of all sorts along the coast. The bravery displayed by the regulars of the life-saving service and by volunteer aid was beyond praise. All that could be done by the means and methods available was done for the rescue of the shipwrecked sailors, and the success attending the humane efforts was great. But the lesson recurs—larger appropriations and better appliances are needed for the life saving stations."

THE LIFE-SAVING SERVICE.

The deplorable loss of life on Lake Michigan during the recent north-east gale has caused more or less fault to be found with the life-saving service at Chicago and Milwaukee, while at other ports, and especially at Sand Beach, the life-saving crews were loaded down with unbounded honor and praise, the popular outburst at Port Huron taking the form of a banquet attended by the civic functionaries and principal residents.

It is of course gratifying to record acts of gallantry and the heroic deeds of those placed in charge of our coast line. It is also profoundly comforting to know that no vessel in distress can be driving on a lee shore either by day or night without the watchful eye of the life-savers noting her progress towards destruction and the opportunity to rescue lives at the instant of peril. That the life-saving crews have time and again nobly performed these duties the records of the service and individual knowledge amply testify.

Nevertheless, the fact that animadversions have been cast upon the life-saving equipment at Chicago and Milwaukee, should awaken the service to increased efforts in the direction of obtaining more successful and positive results in its work. No future cause should ever be given for the recent editorial utterances of the principal newspapers at the foregoing named ports, all of which voiced the sentiment that a shore person is bound to feel on such occasions, namely, that something was wrong somewhere when men could not be rescued in broad daylight within a mile of the port and in such weather that an ordinary ship's boat could live through it. That there was cause for the authorship of articles derogatory to the service and that the writers thereof treated the vital questions involved in the most careful, thoughtful and humane spirit indicates how fully in accord they are with a service that fulfills its order of being, notwithstanding that something more than grave suspicions of competency are aroused; nor will the inquiry by the inspector of the district relative to the action of the crew at Milwaukee allay the fears of citizens, although the crew is completely exonerated from all blame, as now seems to be the case. Such inquiries, however, always terminate so, for the participants in the work of attempted rescues aver they did their best whether successful or otherwise, and onlookers dared nothing, knew nothing about doing and cared less about trailing down to a life-saving station afterwards to give evidence or to be catechised by a naval officer whose power did not etexnd to recalling lost lives, but rather to find a scapegoat so that his own office would be enhanced thereby, etc.

The U. S. Life Saving Service contains some of the bravest and most skillful men in existence. It also costs the nation about a million dollars annually to maintain. The figures and statements contained in its annual reports are most plausible to the uninitiated. The father of the service heads it and the discipline of the corps is beyond cavil. Whence, then, these marked and repeated failures? Like Banquo's ghost, the query will not down only at the expense and prestige of the salaried officials governing it, and to them alone must the query be propounded, if they no longer desire to see articles published and editorials written under such captions as "Reorganize the Life Saving Service," "Our Life Saving Service Inadequate," "Behind the Times," "Good Life Saving Service?" all of which brings a blush of shame to the manly cheeks of the brave fellows ready to risk life and limb in the rescue of distressed seamen, spoils the esprit de corps of the service and destroys the already hard earned prestige gained by those who respond to the occasion and never find themselves without an alternative or last resource even under the most desperate circumstances.

LOCAL HARBOR IMPROVEMENTS.

Prominent municipal officials, accompanied by men interested in rail and water transportation, surveyed the Cuyahoga river this week preparatory to urging measures for the permanent improvement of that much neglected waterway. The director of public works realizes that the Federal Government have jurisdiction only to the harbor lines. Inside of that the municipality itself exercises full authority towards conserving the navigable advantages given to the port and making the improvements called for owing to a change of methods in transportation, an increase of commerce, or a desire to facilitate carriage by water.

This feature of local responsibility is becoming more widely known and appreciated at lake ports. Certainly it bears the stamp of insincerity when localities earnestly petition Congress for appropriations to build breakwaters, extend piers and jetties and keep dredged the approaches to their ports; when at the same time the interior waterways are permitted to become choked, intrenched upon by private reclamations and the entire navigation rendered arduous, if not, as in some cases, impracticable, through the utter neglect, lassitude, ignorance and incompetency of the municipal officers in whose hands the conservancy and improvements of such waterways are temporarily placed by their fellow citizens. The director of public works at Cleveland is evidently aware of the odium attached to an officer who glaringly neglects his duty, and is determined to let no share of blame rest on his administrative or executive ability, in so far as his influence may extend to right the wrongs now existing along the water front at Cleveland.

It is not only in Cleveland, however, that the act and spirit touched upon in the foregoing prevails, as there is hardly a lake port which has attempted from a municipal standpoint to enhance the natural facilities by artificial improvements, save perhaps in the matter of a little annual dredging inside of the harbor lines. Such, however, has not been the case with private individuals, who, for selfish ends, have filled in, encroached, reclaimed, driven piles, built wharves and generally taken control of the banks of the river abutting their property in any manner to suit themselves, thereby forming bends, curves, shallows and other obstructions to the general traffic and the derogation of the port The citizens of Duluth and West Superior seem to have first realized their duty in this respect, and Cleveland can not do less than insist upon a reconstruction of the river banks from its mouth to the limit of navigation. Rotten sidewalks and impassable streets are not permitted in the city, neither ought an utter disregard of this feature be allowed to obtain along the water front.

LAKE FREIGHTS.

Ore tonnage from the head of Lake Snperior is still in fair demand at 80 cents. Marquette and Escanaba light at 65 and 50 cents respectively. A charter has been placed at Marquette to Tonawanda at 80 cents. Buffalo coal rates to Chicago advanced to 45 cents during the week with brisk chartering. Milwaukee 40 cents, Toledo 25 cents and Duluth 15 cents—3 cents on wheat and 2¾ cents on corn to New York. Chicago grain rates are firm again at 1⅛ oats, 1¼ corn, and 1½ cents on wheat. Kingston light chartering at 2½ cents on corn. Oswego coal rates, Milwaukee 70 cents, Toledo and Duluth 50 cents. Duluth 2¼ cents on wheat to Buffalo. Quoted rates on lumber from Bay City and Saginaw are Bay City to Tonawanda $1.50, to Ohio ports $1.25, Saginaw to Ohio ports $1.37½, to Buffalo or Tonawanda $1.62½, with a firmer feeling than last week owing to a difficulty in securing fuel and the raise in price.

ADDRESS TO MASTERS OF VESSELS.

An abstract of the proceedings of the convention of Lake Underwriters held at Buffalo thirty-eight years ago seems equally applicable in 1894 and is reproduced as follows:

The convention of lake underwriters assembled in Buffalo, in January, 1856, offer the following address to masters of vessels, advising the master's duty after his vessel is stranded.

The first duty is to secure the sails, running rigging and other movables, keeping them on board if possible, and if not, removing them to the best place of safety on shore, so as to avoid injury as far as practicable. If the master, after a close examination of his vessel, is satisfied that she cannot be got off the beach by the services of his crew, he must theu seek assistance elsewhere.

As a general rule, the master should not leave his vessel, but having an intelligent mate or other seaman, should send him to the nearest place where he can secure such assistance as may be needed, to get the vessel afloat. The person sent should make a definite contract with the person he employs, as to the price he is to give by the day or by the job, for the men and the materials to be used. When at this place, send information by telegraph or mail, to the owner, and if insurers are known, also to them, telling where the vessel is ashore, her condition, and what he is doing to get her off.

When materials and men can be had to get the vessel off, go to work immediately and do not wait the arrival of an agent of the underwriters, because it is the duty of the master, by the terms of the policy of insurance to make all the exertions in his power to save his vessel and cargo, and any neglect to do so, makes the owner responsible for all damage that could be avoided.

If the danger of losing the cargo, or having it badly damaged is not likely to occur from the condition of the vessel, the season of the year, and the place of stranding, and there is no reasonable probability that the vessel can be promptly got off, and to the earnest available place, to hire another vessel on the best terms you can, and send the cargo to its destination.

If it is necessary to land the cargo for its safety, or to relieve the vessel, do so without delay, making such preparations for its security from damage, as the place will admit—do not permit the whole cargo to be lost, from the fear that a part of it may be, by removal from the vessel.

After the vessel is got afloat, should she be so injured in hull, rigging or sails, as to make the navigation of

her dangerous, proceed to the nearest port where repairs can be made, or supplies sent to her. If it is an expensive place, do no more work than is needed to make your vessel seaworthy, and finish your repairs at a more suitable place. Before making any repairs, select three suitable persons; to be placed under oath by a Notary Public or Magistrate, to make a careful survey of the vessel, and they must specify, in as much detail as possible, the repairs and outfit which are to be made, and which are to be exclusively confined to the damage done by the gale and the stranding. If you are a stranger in the place, seek the advice of the most experienced marine underwriter or Inspector of the Association of underwriters there, as to whom you shall employ to make the repairs. Examine carefully all the bills for repairs, so that you can explain them to your owner or incurer. When the master and two others can be spared from the vessel, because their services for the time are not absolutely needed, then go to a Notary or Magistrate and enter the protest, detailing particularly the cause of the disaster. A protest will not protect the owner from any liability to the uuderwriters or owners of cargo, which arises from the unseaworthiness of the vessel, or negligence in duty of the master and seamen of the vessel. A master who neglects his duty to the vessel and cargo immediately after disaster, that he may hurry off to a Notary to enter protest, does a very discreditable act, and is justly blameable by the owners and underwriters.

THE WEEK'S CASUALTIES.

The tidal wave, varying from eighteen inches to three feet in height, which swept into Alpena on Lake Huron May 17th was the precursor of one of the most destructive gales which Lake Michigan has experienced for some years. Warnings were given at the display stations of the Weather Bureau, but it was not expected that the north-east gale would be so heavy and continuous as it turned out to be, although general atmospheric disturbances obtained and prevailed over the western country during the 18th and 19th, culminating on Lakes Michigan and Huron at the latter date.

A general summary of the losses show about twenty-three schooners and at least thirty-five lives lost, with one or two large rafts of logs castaway and considerable hardships suffered by those who survived. The monetary loss falls light on the underwriters, for, although at first placed at about half a million dollars, the actual loss was nearer half of that sum, as few of the schooners were insured, and it is now thought that $15,000 will cover all risks for which policies had been taken out. The insurance rates on the class of tonnage lost were placed so high this season that few owners insured, besides, a portion of the lumber fleet out of Chicago being discarded from the register, their hulls were uninsurable, although some cargoes were no doubt covered. There are also hulls that will come off the beach again, though no doubt the major portion of the wrecked vessels will "leave their bones" where they last fetched up.

The individual acts of gallantry and heroism displayed at the scene of the wrecks calls in many instances for a national recognition, and it is to be hoped that such representations will be made to the Secretary of the Treasury as to have the usual honors awarded for humane acts of bravery under the most trying circumstances. Among the principal losses at or near Chicago are the following: Schooners Lincoln Dall, Myrtle, Jack Thompson, Evening Sun, Mercury, J. Loomis, McLaren, Rainbow, C. G. Mixer. At Milwaukee the schooners M. J. Cummings and C. C. Barnes, and at other points the schooners Mineral State, Magnolia, Moses Gage, Surprise, H. B. Moore, St. Catherine, Myrtle Lamb, Allegheny, Emily Taylor, Ishpeming, Seizer and Wm. Shupe. One or two steamers also felt the force of the blow, the E. S. Tice, Loretta, Almendinger and the Hudson, the latter losing some of her upper works only.

Among the fatalities on Friday at Chicago were Anton Gunderson, of Manistee, Mich., sailor on the Lincoln Dall; John Johnson, cook on the schooner Jack Thompson; Joseph Poland, mate on the schooner J. Loomis McLaren; Thomas Krahmer and John McMullen, swept from the breakwater and drowned; Capt. Wilson and five of the crew of the schooner Myrtle; also several bodies recovered, one being identified as P. Thompson. The loss of the Cummings and six of her crew was perhaps the most heartrending of the fatalities, for she foundered in only twenty feet of water close to Milwaukee piers, and the lost are Capt. McCullough, Timothy Bosour, Thomas Truscott, James Whitley, Lovell Harrison and Mrs. Patterson, cook.

Grave fears are also entertained regarding the safety of the schooner Lem Ellsworth. She carried a crew of seven men, nearly all of whom made Detroit their home. The Ellsworth was built at Milwaukee by Wolfe & Davidson, was of old Welland canal size and style, with a measurement of 323 tons, rated A2 and had a valuation in this season's Inland Lloyd's of $5,000. Owned by Henry Wineman, Jr., of Detroit.

At Port Huron a volunteer life saving crew were lost through their boat capsizing after getting alongside the schooner Wm. Shupe and four lives were lost. Capt. Henry Little, Capt. Barney Mills, William Lewis and Angus King, the schooner's crew, were eventually rescued; also Dan Lynn, one of the volunteer crew, who, being a man of splendid physique, swam ashore.

AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation: A second bearing of the Sun may be taken at sunset by reversing the bearings to read west instead of east, as, for example, N. E. by E. for a sunrise bearing would read N. W. by W. for a sunset, or E. 30° N. to W. 30° N.

LAKE ERIE AND S. END LAKE MICHIGAN. LAT. 42° N.

Sunrise.	Bearing (degrees).	Bearing (points).
May 28	E. 29° N.	NE. by E. ⅜ E.
May 31	E. 30° N.	NE. by E. ⅜ E.

LAKE ONT., S. END HURON AND CENTER LAKE MICHIGAN LAT. 44° N.

Sunrise.	Bearing (degrees).	Bearing (points).
May 28	E. 30° N.	NE. by E. ⅜ E.
May 31	E. 31° N.	NE. by E. ¼ E.

W. END LAKES HURON AND MICH. LAT. 46° N.

Sunrise.	Bearing (degrees).	Bearing (points).
May 28	E. 31° N.	NE. by E. ¼ E.
May 31	E. 33° N.	NE. by E. ⅛ E.

LAKE SUPERIOR. LAT. 48° N.

Sunrise.	Bearing (degrees).	Bearing (points).
May 28	E. 32° N.	NE. by E. ⅛ E.
May 31	E. 34° N.	NE. by E.

With a compass correct magnetic, the difference between tne observed and true bearing will be the variation for the locality. If there is any deviation on the course the vessel is heading at the time of taking the bearing the result after the variation is applied will be the amount of deviation on that course.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—WISCONSIN.

RACINE PIERHEAD LIGHT.—Notice is hereby given that on or about May 28, 1894, a fixed red light will be established on the outer end of the recently extended N. pier, Racine Harbor, Wisconsin.

The light will be shown from a lantern in an inclosed glazed end of a conduit extending shoreward a distance of 288 feet to the present pierhead light-tower, and will be about 800 feet to the eastward of Racine (Root River) Light-House. The focal plane of the light will be 23 feet above lake level.

With Racine (Root River) Light (white) the new light will guide clear to the northward of Racine Reef by keeping the white light open to the northward of the new light.

On the same date the present sixth-order pier-head light, about 500 feet to the eastward of Racine (Root River) Light will be discontinued.

By order of the Light-House Board.

JAMES A. GREER,
Rear-Admiral U. S. Navy, Chairman.

Office of the Light-House Board, Washington, D. C., May 17, 1894.

THE WASHINGTON DELEGATION.

A Washington special says, Harvey D. Goulder, of Cleveland, Capt. J. S. Dunham, of Chicago, and Col. R. C. Parsons called at the War Department on Tuesday to confer with Secretary Lamont in the matter of the Chicago Elevated Street Railway bridge. Mr. Goulder, as counsel for the Lake Carriers' Association, and Capt. Dunham, representing not only the association, but the Chicago Chamber of Commerce, presented a forcible protest against the erection of the bridge. Secretary Lamont was exceptionally courteous, and allowed them to occupy the time they desired in presenting the subject for his understanding. He asked numerous questions, showing a desire to learn all sides.

It was suggested that Secresary Lamont convene a board of army engineers to give the bridge proposition a thorough investigation. This would enable all parties concerned to present their arguments for or against the bridge. It will also assist the Secretary to reach a more intelligent and fair conclusion. He appreciates the importance of the lake traffic, and, while non-committal for the present, promises to give a decision very soon.

On Wednesday Col. Parsons, Attorney Goulder and Capt. Dunham will visit the Treasury Department, and Thursday the Commissioner of Immigration. They will present objections to the bill now before Congress regulating the employment of sailors on the lakes. They are endeavoring to convince the officials that the bill should be defeated.

TONNAGE STATISTICS.

DETROIT, MICH., May 22, 1894.

To the Editor of The Marine Record:

I desire to learn from a reliable source some tonnage statistics relative to the arrivals and clearances at the principal sea ports of the world. Has the port of Chicago the greatest number of arrivals and clearances as well as the largest aggregate tonnage of any other port, lake or sea coast? VERITAS.

Last year's arrivals and clearances at Chicago shows a total of 17,543 vessels of 10,906,107 tons. In numbers Chicago has probably the call on all other ports in the world, but not so in point of tonnage. In 1892 Chicago's arrivals and clearances numbered 21,123 vessels with a tonnage of 11,934,963. In the same year there entered and cleared at Liverpool 16,119,976 tons and at London 13,916,459 tons. Figures at hand for the year ending Dec. 31, 1891, gives the Chicago tonnage as 11,031,552, Hamburg 11,528,687 tons, Liverpool 11,087,908 tons, New York 13,358,264 tons, London 13,425,517 tons, Cardiff, Antwerp and Marseilles entered and cleared about 9,000,000 tons each. Relative to the Chicago district the foregoing figures for 1891 shows that her total tonnage almost equalled those of our principal sea ports combined excluding New York. Tonnage returns from Boston, Philadelphia, Baltimore, New Orleans and San Francisco gives a total of entrances and clearances for the five ports as 11,865,292 tons as compared with 11,031,552 for the Chicago district.—[ED.

WEATHER FORECASTS FOR THE LAKES.

Prof. Willis L. Moore, who was found the most proficient in the recent weather forecasting contests at Washington, has been appointed to take charge of the bureau at Chicago, and will begin his duties June 1. His territory will be the states of Wisconsin, Illinois and Northwestern Indiana, and he will have charge of the storm signals on Lakes Superior, Michigan, Huron and at Pepin. The object of the new arrangement is to systematize the work of that territory in one central office, with headquarters on the lakes instead of in Washington.

HIGH-PRESSURE STEAM FOR MARINE PURPOSES.

The following is from the Leeds *Mercury*, 1856: "On September 11th an interesting trial took place at the railway foundry, Leeds, in the presence of the government inspector and other scientific persons, of a novel application of locomotive high pressure machinery to marine purposes. The machinery, which has been arranged and completed from designs of the engineer of the works, is intended for a screw steamer recently launched at Hull. Nothing could apparently be more admirable than the smoothness and the facility with which the machinery worked, a speed of 120 revolutions of the screw shaft per minute being obtained from the direct action of the engines without the intervention of multiplying gear. This quickness of piston motion, which is not obtainable at low pressure, is one of the main advantages of the application. Another is the great saving of space and weight, amounting to more than one-half, but what seemed to excite admiration most was the ease and quickness with which the motion was reversed, which on Thursday was repeatedly effected under unfavorable circumstances, and against the full pressure of 140 pounds on the inch seven and eight times within thirty seconds. Upon the whole, it is not too much to say that this very admirable arrangement bids fair to supercede all other applications of steam power to marine purposes, especially for screw steamers."

WHO WAS THE JONAH?

All hands except one being lost on the schooner Cummings, sunk at Milwaukee, attention has been called to two seamen who experienced a singular chain of evil circumstances during the past two years.

James Whitley, A. B., was the son of the late Capt. Whitley, and had been two years sailing on the lakes in the hardest kind of misfortune. James Whitley joined the steamer Northerner when Captain McCullough took command of her two years ago, and within twenty-four hours the ship burned under their feet. Then Capt. McCullough got charge of the schooner Montcalm, which was lost off Long Point in a gale a month later. Whitley shipped with McCullough again last season on the John T. Mott, which became waterlogged and was taken into Fairport in a sinking condition. Unable to secure a boat this season, McCullough bought the Cummings giving a bottomry bond to cover most of the purchase price, and the captain and Whitley went down in her together. In the intervals Whitley was also on the Barnum when she foundered.

THE AZIGRAPH.

A new instrument for the use of navigators has just been invented named the azigraph. It is of exceedingly simple construction, combining all the functions of the pelorus, angle-sextant and station pointer, and in various problems of coast navigation will dispense with reading of angles, use of tables and calculations. All bearings taken are indicated on the chart-room table, and at once placed on the chart without being plotted or transferred to another instrument.

The azigraph consists of a very simple sight vane, in the form of a thin, circular ring, supported in gymbals and mounted in a brass circular cup, which can be partly filled with oil to give the sight greater steadiness in a sea-way. From its shape and mounting the sight always keeps vertical and moves correctly in azimuth; it is not deflected by the wind; objects at any altitude can be observed, and it is a simple and practical form of sight for use at sea. The cup is mounted on a vertical metal rod or axis, which is fitted in a slender brass pillar stand, something like a telegraph stand, and passes through the deck or decks into the chart-room, immediately over the chart table. This brass stand or pillar is made with a bearing ring, on which a handle of convenient size attached to the vertical rod rests. With it the observer turns the latter and sets the vane ring on to the object. When the vane is thus set, the observer, pressing on the handle, operates on a spring push and causes an electric bell in the chart room to ring while the vane is on the object. A small divided compass plate, or circle of degrees, is fitted on the inside of this bearing ring with a pointer, which moves with the vane and indicates the angle or bearing, if it is required to read the same. It also enable the accurate correspondence of the vane with the indicator arm in the chart room to be checked. A socket arm or bracket is attached to the chart room ceiling or bulkhead to receive the lower end of this rod; an axis pin attached to the latter, and fitted so that it can be pushed up and out of the way when not required, drops into a small center hole on the table. On this axis pin is a radial arm, which works over the chart table and indicates the exact direction in which the sight vane above is set. A circular or semi-circular glass of convenient diameter, fitted in a brass frame or rim, and with its upper surface finely ground, is placed in position on the chart table, with the above center pin resting in its center hole, and the bearings indicated are marked with a lead pencil on the ground surface along the radial edge of the brass arm. The glass circle or semi-circle could then be placed on the chart, and the ship's position and true course at once marked. Three lengthening arms to clamp on the rim are also provided, so as to extend the line of bearing when necessary. A metal course bar with quadrant arch and radial arm is also fitted to slide backwards and forwards in a true fore and aft groove cut in the table. These are divided in a scale of inches and tenths, to represent miles or any other required measure, and the quadrant arch is divided in degrees. This arm and course bar being placed so that the axis pin drops in its center hole, the radial arm can be set to the first bearing of a light, the course bar being then moved along its groove the distance run by the ship, and the sight vane again being set on to the light, the arm cuts the first arm and indicates on its divided edge the distance from the light. An athwart ship or beam scale is also let into the chart table to show the distance a light will be passed abeam, and the arm on the quadrant will also indicate the number of degrees to alter the course, if it is required to pass it at a greater or less distance.

A divided circle of degrees is also when required let into the chart table for reading the angles observed, and a divided compass plate can be attached to the socket arm or bracket, on which a pointer, fixed to the vertical axis or rod, will indicate the compass bearings of objects observed, the plate being set to the course steered. The instrument stand and vane should be fixed adjacent to the standard compass, so that where a subsequent observation of a light or object is taken, it can be noted if the ship is kept steady on her course in the interval, or a small tell-tale compass can be attached if required.

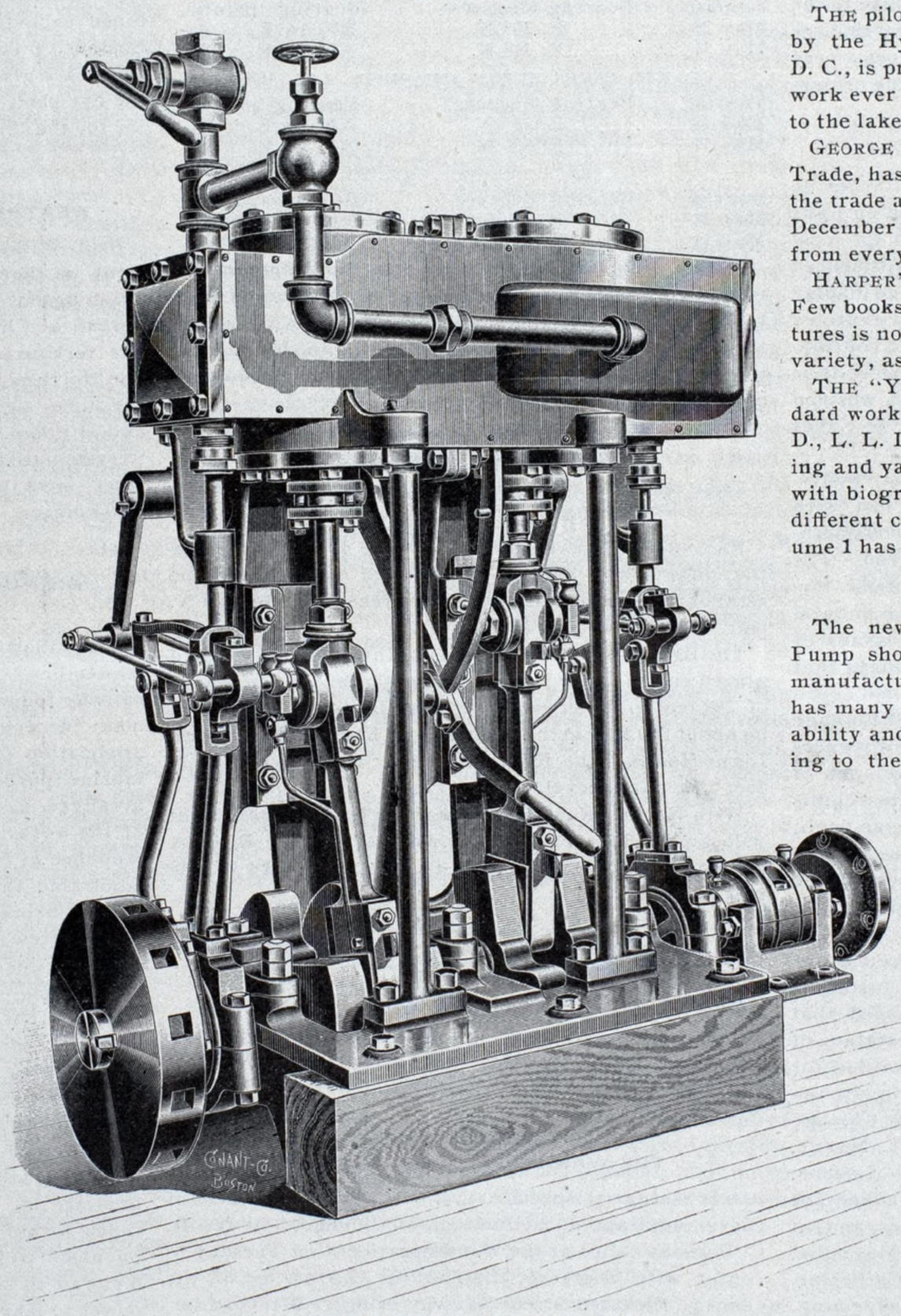
THE ARMOR PLATE SCANDAL.

The local investigation into the armor plate scandal was concluded at Pittsburg on Friday last, and the naval board returned to Washington. It will probably be a month before its report is made public. It was learned that one result of the investigation will be a change in the policy of the navy department as far as the selection of the inspectors is concerned. The inspectors at present are mainly ensigns who have returned from sea voyages. The board will recommend that in the future mechanical engineers and not sailors be selected to inspect government material used in the construction and equipment of war ships.

COMPOUND MARINE ENGINE.

(ILLUSTRATED.)

We illustrate herewith a compound marine engine, built by the Morris Machine Works, Baldwinsville, N. Y. The engravings is of a 5"x10"x6" engine. The cylinders are cast separately and bolted together with a receiver between them. The high pressure cylinder has a balanced valve of the same type as that used in the Straight Line engine. The valve on the low pressure cylinder is a common "D" valve. The cranks are arranged at an angle of 90°. All working parts, such as piston rod, crosshead, connecting rod, crank shaft and link motion, are made of steel. The cylinders are supported by cast-iron columns behind and polished steel rods in front, giving full view of all the working parts. All reservoirs are fitted on the back side of the engine, and by pipes leading from these reservoirs, the crosshead guide, crank-pin, and crosshead pin are automatically oiled. The engine is highly finished in every way. One of them during a recent trial ran continuously at 450 revolutions per minute, showing no tendency to heat.



COMPOUND MARINE ENGINE.

THE SYREN FOG WHISTLE.

The firm of Schaffer & Budenberg, Brooklyn, N. Y., have experimented with sound signals in fog until they have determined on the best methods of penetrating fog banks with sound by means of a steam syren, a patent for which has been applied for.

The patentees assert that their steam syren gives the most intense, far-reaching and distinctive sound yet obtained, nor can they be over-blown, even with the highest pressures, as is the case with bell or organ pipe steam whistles. Furthermore, with the fixed cowl the sound is projected in a horizontal direction and the syren may be fitted so that the most concentrated sound will be projected in the direction of the steamer's course. Fitted with the movable cowl the syren becomes in acoustics what the electrical search-light is in optics, as the sound may be projected horizontally or in any required direction, so that to a keen observer the position of other ships, land, breakers, etc., can be determined with great accuracy by moving the cowl round the horizon and blowing quick, sharp blasts, then noting the time and direction from which the echoes are heard, when any object disturbing the level of the water will be detected and its distance may be calculated. This feature is, of course, one thoroughly understood by all persons accustomed to navigate in thick weather, and nowhere more so than on the lakes.

The trade catalogues and special literature on the subject of syrens may be obtained by addressing the manufacturers at 66 John street, New York, or their Chicago offices at 22 W. Lake street.

PUBLICATIONS

THE pilot chart of the Great Lakes, issued this week by the Hydrographic Office, U. S. Navy, Washington, D. C., is pronounced by all who have seen it as the finest work ever issued by a government department relative to the lake region.

GEORGE F. STONE, secretary of the Chicago Board of Trade, has compiled the thirty-sixth annual report of the trade and commerce of that city for the year ending December 31, 1893. The work is to be highly commended from every standpoint.

HARPER'S MAGAZINE for June contains 84 pictures. Few books have so many. But the charm of these pictures is not in their number; it is in their beauty and variety, as well as their appropriateness to the text.

THE "Yachts and Yachtsmen of America," a standard work of reference, edited by Henry A. Mott, Ph. D., L. L. D., etc., is a history in two volumes of yachting and yacht clubs as well as of the various yachts, with biographies of the founders and members of the different clubs of the United States and Canada. Volume 1 has just been issued.

TRADE NOTES.

The new illustrated catalogue of the Marsh Steam Pump shows the World's Fair award for their special manufacture, from which we note that the Marsh pump has many novel features of construction, and that durability and simplicity of construction in a pump belonging to the class in which the valve is moved by steam and the exhaust returned to the suction is especially mentioned, also that the exhibit showed excellent workmanship and the product a reliability of operation. The Battle Creek Machinery Co., Battle Creek, Mich., manufacturers of these now well-known pumps have been incorporated since 1873, since which time their annual record shows an aggregate of 9,360 Marsh steam pumps supplied to responsible and first-class users.

Henry L. Brown, of Bay Shore L. I. N. Y., writes to the Finlayson Boiler Co , of Detroit, under date of May 19, relative to their upright water tube boiler, as follows: "I have delayed writing you in reference to the boiler I bought of you some months ago, until I had thoroughly tested it in every respect. Now, at the time of writing, I would say that I am more than pleased with its working. I experienced some difficulty in the beginning on account of foaming. I put some washing soda into it, and steamed for about fifteen minutes, and then blew off. Since that time there is not the least particle of trouble as to foaming and I can say with experience, as I have had three other steamers, that without exception this boiler uses less fuel and makes more steam than any other boiler I ever saw. I would not part with it at any price, if I could not get another. I would say that I have raised steam with wood fire in seven minutes; however, I do not practice this kind of treatment, but did it as a test. No trouble is experienced when caught in the Bay without fresh water, with using salt water, but would not advise its general use. You may use this letter, or any part of it, should it further your interest to do so or if any one in this section will call I should be more than pleased to demonstrate what I have written. At the present moment I am in a hurry, but will write you more fully at an early date, as I do not think words can say too much in praise of your boiler."

NEW TONNAGE.

The lake built vessels assigned official numbers by the Bureau of Navigation, Treasury Department, Washington, D. C., for the week ending May 12, 1894: Steamers L. P. Smith, Cleveland, O., 74 tons, W. & J. Connell, Oswego, N. Y., built at Buffalo, 43 tons, and the sail vessel Three Links, Toledo, O., built at Oak Harbor, O., 7 tons.

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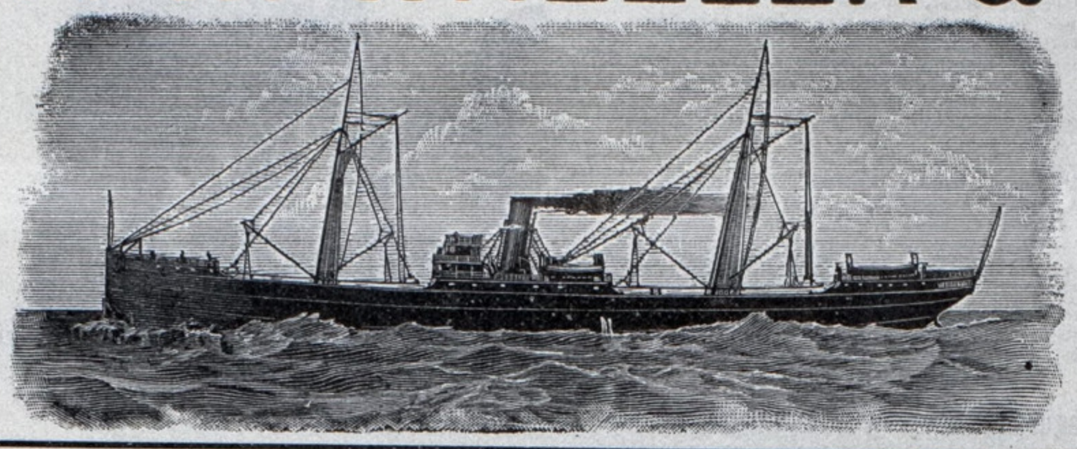

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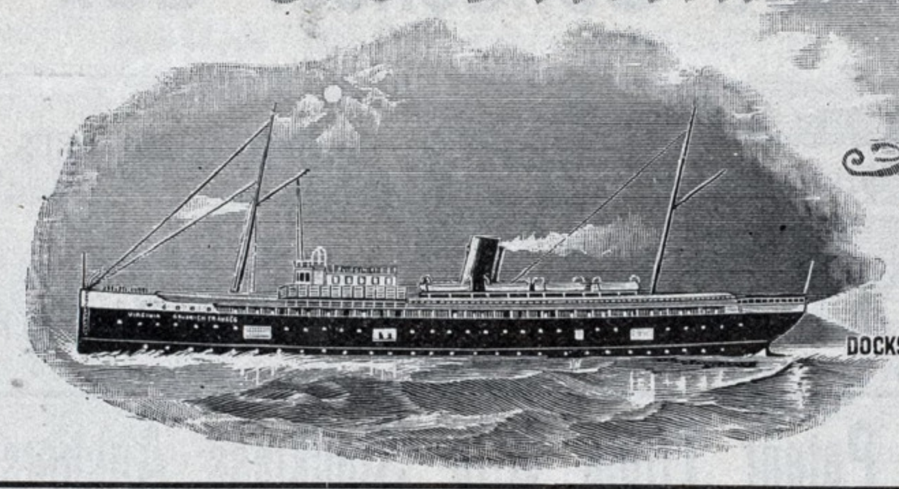

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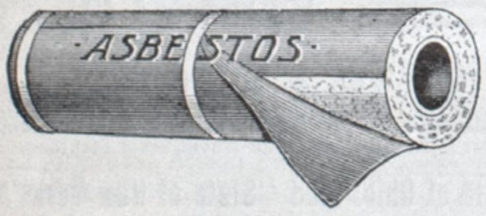

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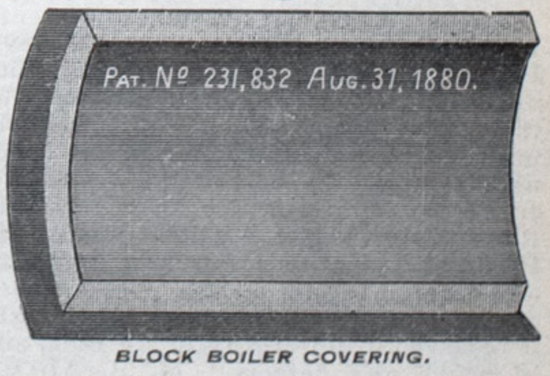

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PROPOSALS.

TREASURY DEPARTMENT, Office of General Superintendent U. S. Life Saving Service, Washington, D. C., May 1, 1894. Sealed proposals will be received at this office until 2 o'clock p. m. of Thursday, the 31st day of May, 1894, for furnishing supplies required for use of the Life Saving Service for the fiscal year ending June 30, 1895; the supplies to be delivered at such points in New York City, Grand Haven, Mich., and San Francisco, Cal., as may be required, and in the quantities named in the specifications. The supplies needed consist of beds and bedding, blocks and sheaves, cordage, crockery, furniture, hardware, lamps, lanterns, etc.; lumber, medicines, etc.; paints, oils, etc.; ship chandlery, stoves, etc.; tools and miscellaneous articles, all of which are enumerated in the specifications attached to the form of bid, etc., which may be obtained upon application to this office, or to the Inspector of Life Saving Stations, 24 State street, New York City; Superintendent Eleventh Life Saving District, Grand Haven, Mich., and Superintendent Twelfth Life Saving District, Appraisers' New Building, San Francisco, Cal. Envelopes containing proposals should be addressed to the "General Superintendent U. S. Life Saving Service, Washington, D. C.," and marked on the outside "Proposals for Annual Supplies." The right is reserved to reject any or all bids and to waive defects, if deemed for the interests of the government. S. I. KIMBALL, General Superintendent.

19-21

Office of Engineer, Ninth and Eleventh Districts, Detroit, Mich., May 14, 1894. Proposals will be received at this office until 3 o'clock p. m., of Thursday, the thirty-first day of May, 1894, for furnishing the materials and labor of all kinds necessary for the completion and delivery of the metal work for tower for Twin River Point Light Station, Wisconsin. Plans, specifications, forms of proposal, and other information may be obtained on application to this office. The right is reserved to reject any or all bids, and to waive any defects. M. B. ADAMS, Major of Engineers, U. S. Army, Light-House Engineer. 21

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Tug, Hunter, Chicago, 15 and 28x22.
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Oval Agitator, Chicago, 14 and 28x20.
Tug, Peter Coates, Sault Ste Marie, 10 and 20x16.
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The engraving represents our 20 and 36x36 Fore and Aft Compound Marine Engine. We build them all sizes and guarantee them to give satisfaction. Prices furnished on application.

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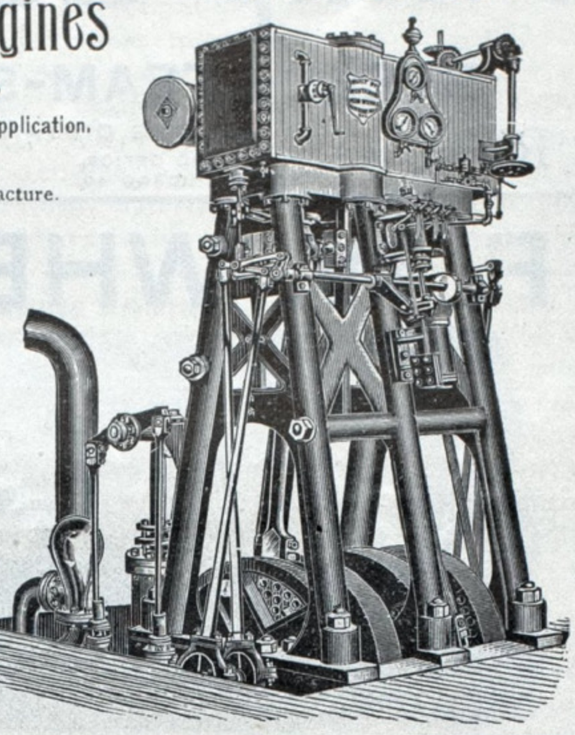

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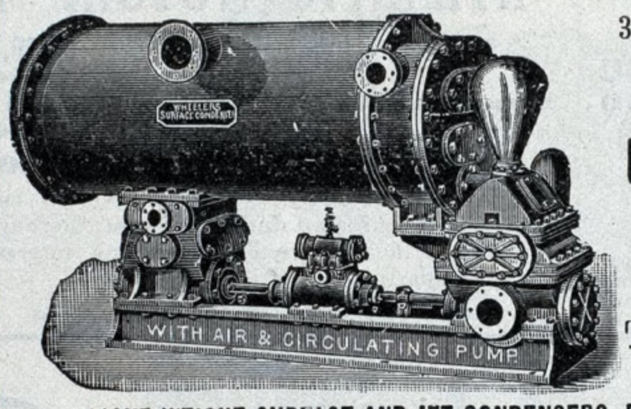

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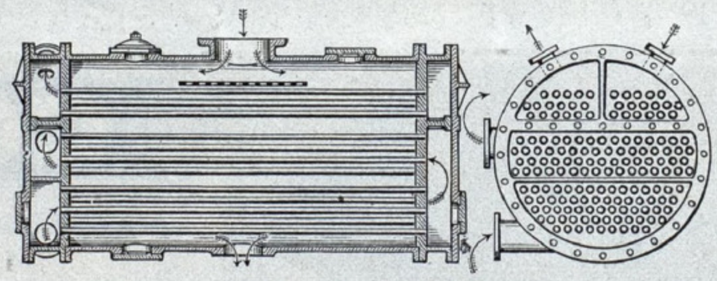

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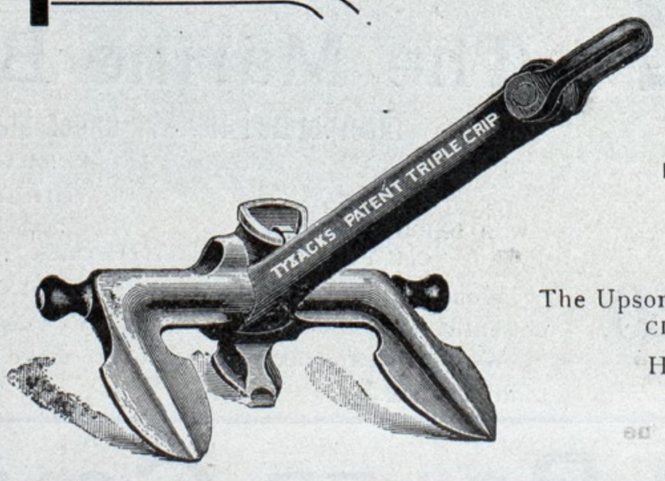

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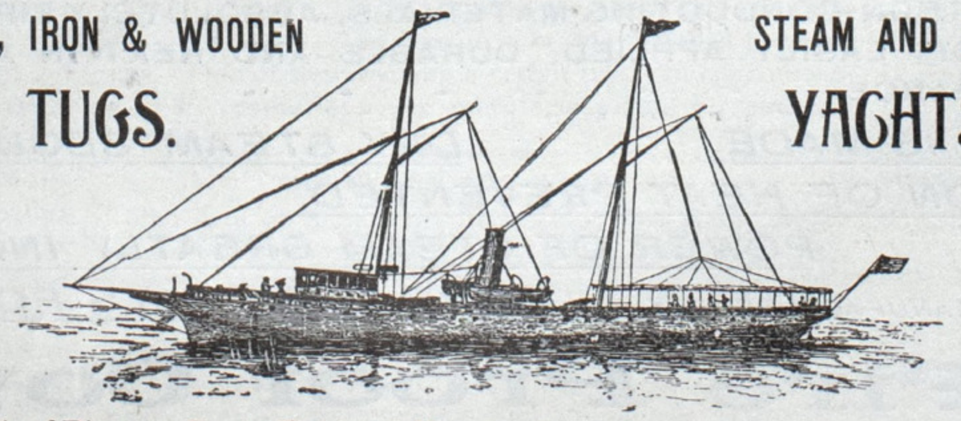

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Y. P. S. C. E. SOUVENIR.

An edition of the Souvenir Maps of the Y. P. S. C. E. Convention to be held July 11th to 15th, at Cleveland, O., has been issued to the Nickel Plate Road, the shortest through passenger line between Buffalo and Chicago. Any person who expects to attend this Convention and desiring one of these maps can have same forwarded to his address, free, with the compliments of this popular low rate line.

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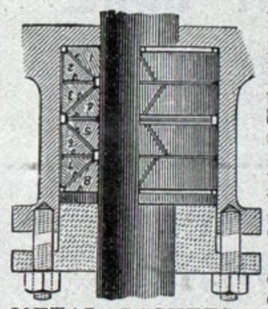

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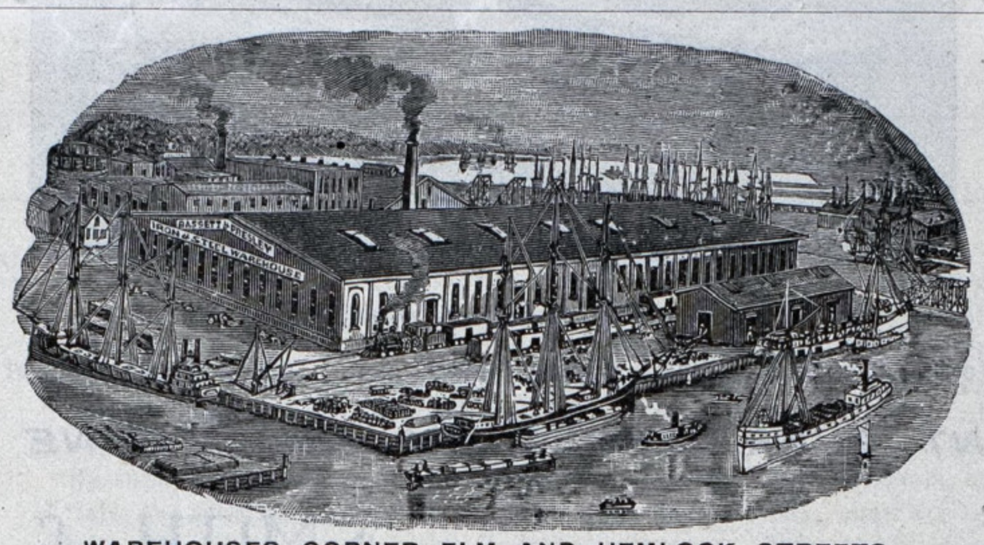

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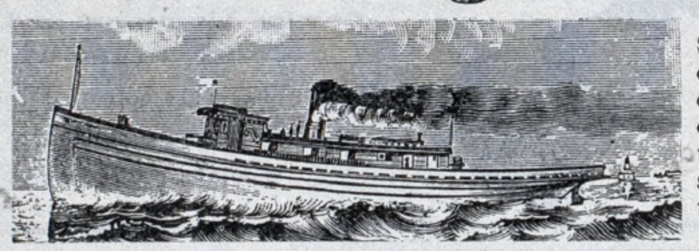

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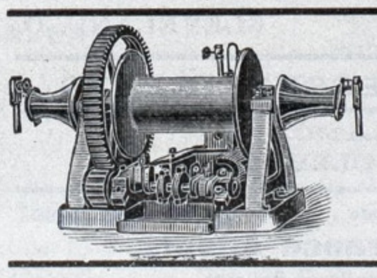

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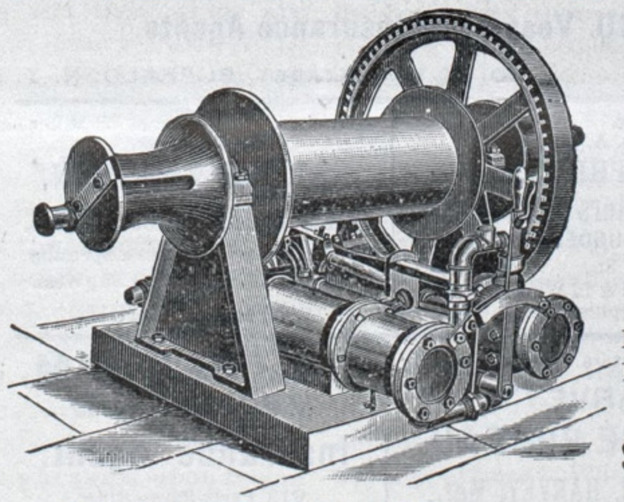

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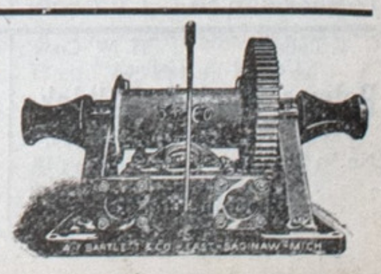

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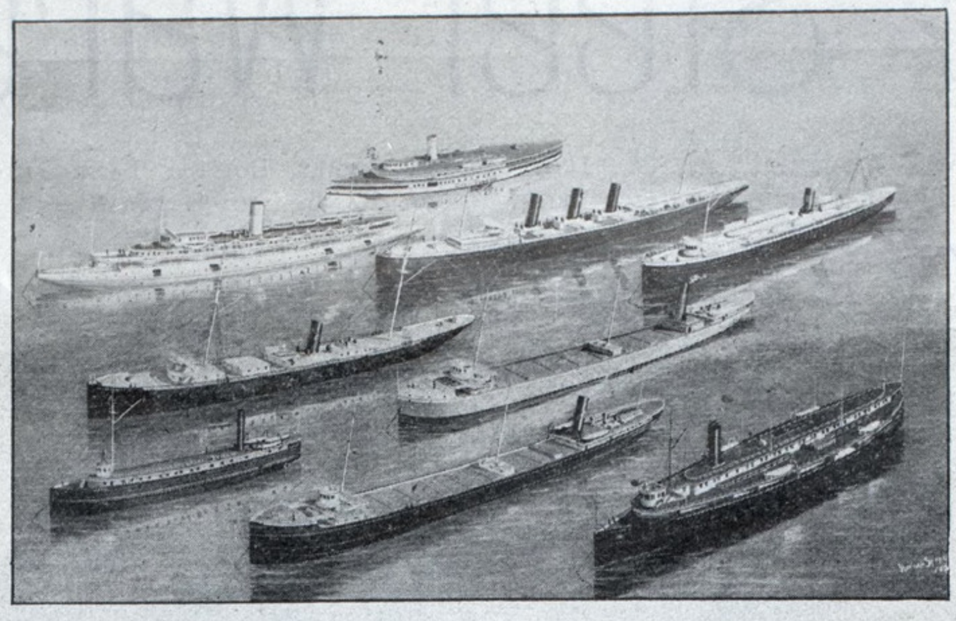

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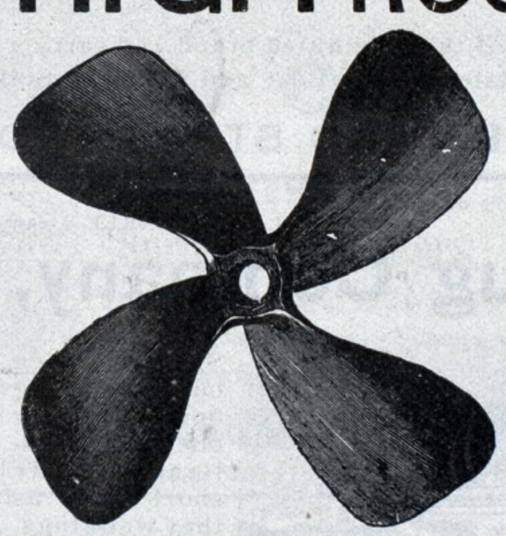

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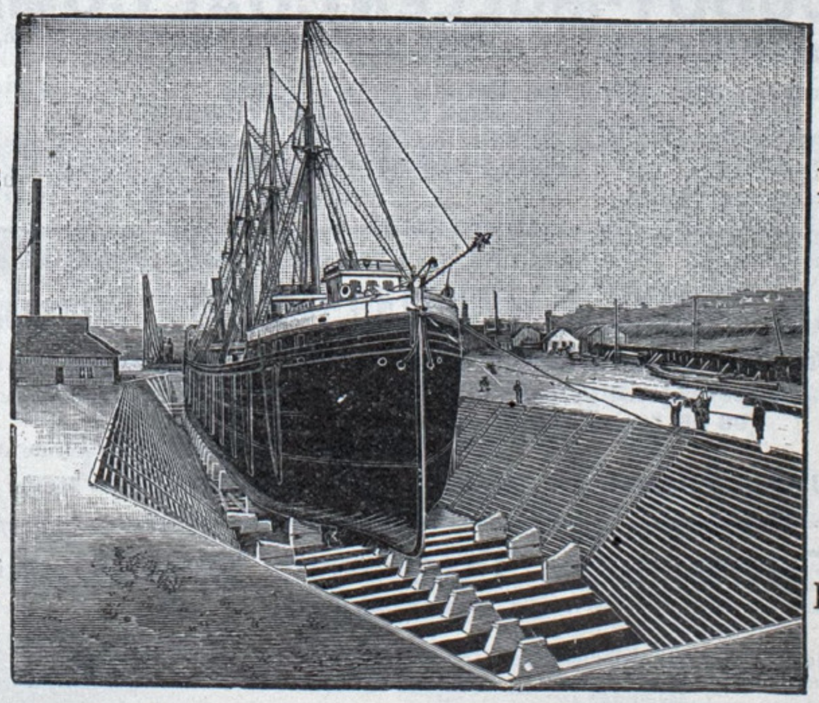

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